

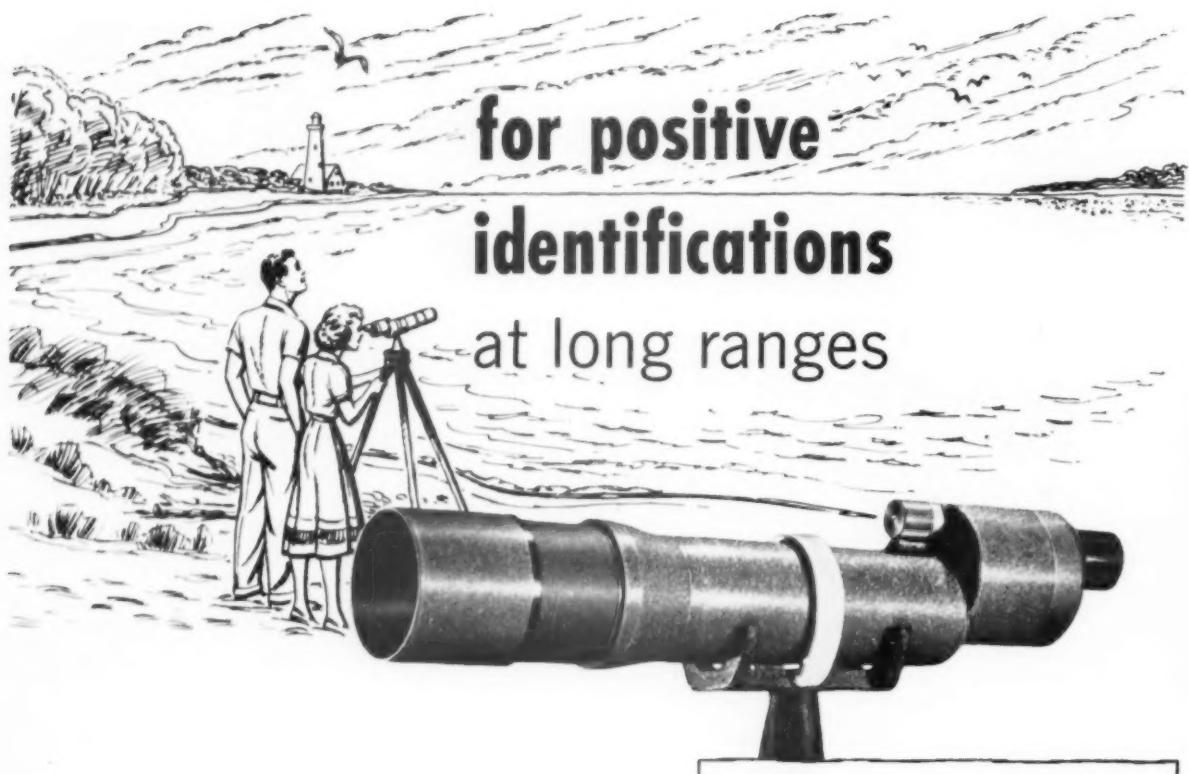
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MAY - JUNE 1954

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Audubon magazine



Volume 56, Number 3, Formerly BIRD-LORE

PUBLISHED BY THE NATIONAL AUDUBON SOCIETY

A bimonthly devoted to the conservation of wildlife, plants, soil, and water

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COVER: Photograph of red-eyed vireo from a painting in the Elephant Folio edition of "Audubon's Birds of America" in the National Audubon Society Library.

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Letters

Ethics in Wildlife Photography?

In his column, "Bird's-Eye View," in the January-February 1954 issue of *Audubon Magazine*, Mr. Peterson gives some very wholesome admonitions on the ethics of wildlife photography, but he makes at the same time several statements which seem to me quite uncalled for. He says that there appears in a recent publication, which I assume to be "Land Birds of America," at least 15 photographs of birds in captivity or under restraint that are not properly qualified as such and he labels this failure as coming uncomfortably close to "nature faking." I have carefully examined all the illustrations in the book and can find only one which appears to have been made under artificial conditions. Other photographs may be of captive birds but there is no positive evidence of this to be found in the pictures themselves. Unless Mr. Peterson has access to information not available to me his remark is an unwarranted disparagement.

Mr. Peterson attempts to draw a line between the controls that he permits the nature photographer to use and those that he regards as unjustifiable. For reasons not made clear he excuses most controls practiced in the motion picture art, except in Audubon Screen Tour films, while condemning their use by the still photographer.

No wildlife photographer who endangers the lives of his subjects, he says, should be taking pictures, although he knows that almost all bird photography jeopardizes to some degree the lives of birds. Simply finding a bird's nest often endangers its safety. Any bird photographer who guarantees not to endanger his subjects is either ignorant or is trying to fool someone. Bird photographers should not endanger *carelessly* and *thoughtlessly* the lives of their subjects, but no rules can be prescribed. How far one may safely go to get a photograph is a matter of judgment which in turn is a matter of experience.

One of the procedures I have used with signal success under certain conditions, and which Mr. Peterson categorically rejects, is to cut off the branch on which a nest is located and to lower it from the treetops. I have not yet failed to do this successfully. By successfully is meant both photographically and also from the interest of the birds. When photography was completed, the branch was raised to a height at which

the nest would be reasonably safe from ground predators and kept under observation until the young were fledged. According to Mr. Peterson it is not cricket—why? I do not believe that he would have objected to my having built towers to support my equipment at the height of the nests, although, as far as jeopardizing the birds goes, a tower, I feel, would endanger them no less than lowering the nest. Perhaps he believes that all this treetop photography should be done from the ground with telephoto lenses. I wonder if Mr. Peterson really does not feel that the use of such modern equipment as electronic flash and photoelectric trippers is also going too far.

ELIOT PORTER

Santa Fe, New Mexico

Another Photographer Comments

It is presumptuous of Mr. Peterson to limit photography merely to recording strictly natural subjects, and to deny to the photographer the use of his medium as creative art.

By the same standards John James Audubon is indicted for using propped-up dead specimens as subjects, and Mr. Peterson himself must surely be guilty of occasional reference to museum specimens, and of bringing into his studio accessory material which he imaginatively combines in his excellent bird paintings.

The question is not at all one of honesty, but rather one of purpose. It is true that there is an implication of accuracy in a photograph, and any picture in which accuracy is important, as in a scientific record, is only valuable in the raw state. But there are other purposes for photographs, and if the photographer can create in his studio a composition that is aesthetically pleasing, educationally effective or, for whatever other purpose, useful, he should not be discouraged by having his integrity questioned.

Creative photography might indeed

be another frontier of expansion which Mr. Peterson did not realize at the time when he considered the field of bird photography "... quite circumscribed."

WILLIAM K. KIRSHER
Sacramento, California

California Hospitality

In the September-October 1953 issue of *Audubon Magazine* you quoted a letter received from Mr. Frank F. Gander of Escondido, San Diego County, California, in which he invited anyone interested in birds, or any other phase of natural history, to stop in for a visit. Mr. Gander feeds the winter birds and has water for them.

My wife and I stopped there on February 15 and were kindly received by Mr. Gander, who soon had flocks of birds coming to be fed. He pointed out the differences between the Gambel's and Nuttall's white-crowned sparrows, showed us an immature golden-crowned sparrow, and many others. Putting some bird feed in my hand and resting it near the ground, I enjoyed having a rufous-crowned sparrow eat from my hand.

I am sure that any other people interested in birds would enjoy this short trip to Mr. Gander's nursery and would be most welcome.

CARL F. HAMANN

Aurora, Ohio

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Information About Sabine Refuge

In justice to the large number of your members who use *Audubon Magazine* as a sort of "birding bible," I trust you will run the following information regarding Olin Pettingill's story on the Sabine Refuge in Louisiana in your November-December 1953 issue.

First as to reaching the Sabine area; the shell road running south from Sulphur, State 104, may be an improved shell road. It is, however, pitted and pock marked like a battlefield from the incessant stream of oil field supply trucks which 1) makes driving over 30 miles an hour extremely hazardous, 2) makes any stopping on the shoulder highly dangerous and 3) raises such a cloud of dust during the day that birding is impossible.

There is one short stretch of improved road, which by-passes the village of Hackberry, a town which seems in process of being relocated and is in the middle of an oilfield.

There are three state ferries operating between Sulphur and Cameron which provide good service despite the very heavy oilfield traffic. However, far from being the sleepy little town which Olin pictured, Cameron is also an oilfield center with all that this entails for a very small village. As far as I could find, neither lodgings nor any possible meals are available.

Oil wells apparently run up to the refuge fences on north and south and the whole area is heavily overgrazed by cattle feeding in the marshes. In the canals and marsh along the road, carcasses of hogs and steers lie rotting. Where the road reaches the Gulf and turns east to Cameron, a "resort" of tar paper cabins known as Holly Beach has grown up.

There are birds. We saw perhaps 30 Canada geese, and 100 blues and snows, these grazing with the cattle. There were none in the air, but they have undoubtedly concentrated farther west in the marsh. No egrets in Cameron or

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elsewhere along the roads. We didn't make the trip east from Cameron because of worse roads and more oil, so missed Little Cheniers.

Best bet to see wildlife in the Sabine, I honestly believe, would be to stay in Sulphur, making arrangements for a boat trip in the refuge which might or might not be productive of birds. Better yet, pass it up unless you're building a life list that doesn't include birds of the Sabine.

LEONARD HALL

Caledonia, Mo.

Editors' Note: It is probable that Pettingill's account of the Sabine Refuge in "A Guide to Bird Finding West of the Mississippi," may have been prepared prior to the developments about which Mr. Hall writes.

Raising a Mourning Dove

Early in August, 1953, several children brought a mourning dove to me. It was almost devoid of feathers, and when I took it in my hand it felt cold as death. Knowing that parent doves feed their young pre-digested food, I knew I had a big problem on my hands. Also, their method of taking their food from their parents would be hard to duplicate. I didn't believe it could be done, but I thought I would try it anyway.

At first I put the dove in a box and covered it with an electric pad. While it was getting warm, I cooked Malt-O-Meal to the consistency of milk and I drew it into a glass drinking tube. After the third or fourth trial, the dove left its bill in the tube where I placed it and began to draw out the food. I put my finger on the top end so it wouldn't run out faster than it could swallow. I fed it every half-hour at first, and as it grew older, I lengthened the time between feedings. At the time this picture was taken I had had it 18 days. It would fly away and stay four or five hours and come home when it was hungry. It liked to sit in the palm of my hand or on my arm.

After I had it two months, it began to show signs of restlessness at night. It no longer stayed on its perch after dark, so we left the screen door open one evening. When it became so dark that we could hardly see, it took wing and left. We never saw it again.

MRS. OLIVER HANSRUD
Minneapolis, Minnesota

Although I have raised young doves on the finely mashed yolks of hard-boiled eggs and finely-sifted bread crumbs, moistened with milk or cod-liver oil, Arthur A. Allen told me that he has had excellent results with Cream-of-Wheat, Wheatena, and Pablum. By touching the corners of the young dove's mouth, one can usually induce it to open up to be fed.—John K. Terres



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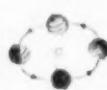
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SAVING CORKSCREW SWAMP*

THE last great virgin stand of cypress in Florida lies at the northern end of the Corkscrew Swamp, a part of the Big Cypress Swamp, in Collier County, Florida. This end of the swamp has from time immemorial been the site of the greatest rookery in the United States, let alone Florida, of wood ibis and American egrets. A group of individuals representing many organizations met at Tampa March 20 to plan ways and means of saving for all time, as a permanent public educational exhibit, this outstanding area with all of its associated plant and animal life. The Corkscrew Cypress Rookery Association was formed to develop public interest and stimulate contributions. Mr. O. Earle Frye, Jr., Assistant Director of the Game and Fresh Water Fish Commission at Tallahassee, was appointed Secretary, and Mr. John H. Baker, President of the National Audubon Society, Chairman of the Finance Committee.

In behalf of the Society Mr. Baker proposed that it accept the obligation to provide protective and interpretive service and that it accept title to the property, whether by gift or purchase; this inasmuch as the Society already enjoys established tax exempt status with regard to the deductibility of contributions on income tax returns of donors and because it also enjoys tax exempt status in Florida on property owned by it and used for its stated purposes.

Mr. Baker, who had handled the negotiations with the landowners, the Lee Tidewater Cypress Company and The Collier Enterprise, reported that the president of the former, Mr. J. A. Currey, had generously offered that the company give 610 acres, providing certain assurance be submitted that the area would be protected; that the company had offered to refrain from cutting a narrow fringe on the opposite or western edge of the interior lake or marsh and to grant an option to purchase from it for \$25,000 a key area of 160 acres of its best timbered land; that it offered to give an additional 800 acres when cut

over, to serve as a buffer area and permit long-term protected restoration. Mr. Baker added that Mr. Currey has long been interested in the preservation of the site of the bird rookery and made efforts in that direction in the early 1930s.

He reported that The Collier Enterprise, which owns certain adjoining property into which the bird rookery extends, had offered to be at least equally generous, but that until current surveys are completed it would not be in a position to specify the exact boundaries of tracts that it would give or on which it would grant options to purchase.

Mr. Currey of the Cypress Company had also said that as soon as current surveys were completed he would be willing to name a price on the aforementioned 800 acres if not cut over.

The tract is within a game management area administered by the Florida Fresh Water Fish and Game Commission, which was reported by Mr. Frye to be in entire sympathy with the setting aside of this relatively small area of some 2,100 acres as a refuge.

The lands of the Cypress Company involved are subject to an outstanding mineral lease, of which the present sublessee is the Humble Oil and Refining Company, with whom, Mr. Baker stated, the National Audubon Society has enjoyed at all times cordial and cooperative relations.

At this writing (April 15) the sum of \$20,800 of the necessary \$25,000 to exercise the option on the key 160 acres had been contributed, and the National Audubon Society underwrote the unsubscribed balance and notified the Lee Tidewater Cypress Company that the option would be exercised. Barring any possible hitch in the examination of titles by counsel, a sanctuary comprising a minimum of 1,600 acres

NOTE TO READERS:

Inasmuch as we did not receive Mr. Peterson's column in time for our May-June issue, we have substituted an item of important news which we are sure our readers will find most interesting. Mr. Peterson's column will appear regularly again beginning in our July-August issue.

THE EDITORS

will soon be established. Within a few weeks it will be possible to give consideration to prevention of the cutting of timber on 800 acres of the Cypress Company lands, if it then seems sufficiently important to pay the price to attain that end. Due to the sudden and unfortunate recent death of Mr. Miles Collier, there may be a little longer delay than had been recently anticipated in concluding arrangements with The Collier Enterprise.

Organizations and individuals have been most generous and prompt in their response to appeals for financial assistance in the setting up of this sanctuary. Full credit will in due course be given to all, but mention should be especially made now of the Florida Federation of Garden Clubs which has underwritten \$5,000 of the cost and is soliciting contributions to cover same from its entire membership; the Florida Power and Light Company; The U. S. Phosphoric Products Company; the Old Dominion Foundation; and the New York Zoological Society. There are doubtless individuals who have not heard of this matter who would like to make contributions.

At the National Audubon Society's Regional Convention Banquet in Miami on April 24 the following citation was given to the Lee Tide-water Cypress Company, through its secretary and director, Watson B. Hastings.

NATIONAL
AUDUBON SOCIETY
AWARDS THIS CITATION TO
LEE TIDEWATER
CYPRESS COMPANY

in recognition of its specific conservation action, and in appreciation of the vision and generosity of its di-

rectors and officers, in making possible the inclusion of certain of its lands in the sanctuary now in process of establishment in the Corkscrew Swamp in Collier County, preserving as a permanent public educational exhibit the last great stand of virgin merchantable cypress in Florida and all of its associated plant and animal life, including the historic rookery of wood ibis and American egrets. Through this action the company establishes itself as a leader in the new trend toward corporate giving in support of worthy conservation efforts.



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Camping in our National Parks

By Mary Pettit

WHEN we were planning the coast-to-coast family camping trip we made during the summer of 1953, we knew that we would see some of the most spectacular scenery in the world.* But no one had predicted, and we had scarcely hoped for, what became the real feature of our trip—the ease with which we saw many birds and mammals that were new and interesting to us easterners. No one had warned us that within five minutes after we hung up our water bags in the Grand Canyon campsite, we would see three species of nuthatches, western bluebirds, solitaires, and juncos flocking to the tree to sip water as it seeped from the bag.

We had never expected that these birds, plus Steller's jays, nutcrackers, western tanagers, and many others, would hop about on our camp tables and almost take the food from our mouths. We had never dreamed that such birds as stilts, avocets, curlews, godwits, Wilson's phalaropes or western willets would be so commonplace that we would not even look up as they called from the mudflat near

our southern California campsite.

In brief, we were pleasantly surprised after birding in the East, at the relative tameness of most of the western birds we saw. And we are convinced more than ever before, that the best way to see birds is to live among them—to camp out in the open—whether it is forest or desert, prairie or mountain meadow.

Fortunately, our varied family hobbies all fit in with camping. Ann, aged 10, is an amateur geologist; Beth, aged 12, and I like birds best, but are interested in other animals and plants. Ted has had some experience in many branches of natural history, and in conservation. We are all camera "bugs" and love to fish as well. Because of these hobbies we started camping in the first place.

Like a lot of people, our vacation ambitions and tastes frequently exceed our limited budget which is all too small for all we want to do. Camping out and doing our own cooking makes it possible for us to go farther or to stay longer on the same small vacation budget. *Actually we've found, a vacation does not have to cost more than staying at home, except for necessary car expenses.*

Our family started camping five years ago, just as soon as the girls were able "to take it." Our first trips were short weekend to week-long

affairs, to state or to Canadian provincial campsites. We gradually accumulated equipment and experience until now our Plymouth four-door is easily converted into a self-contained unit out of which we can live for a week to a month, anywhere a car can travel.

While there are always bound to be a few discomforts connected with camping, we think that in our present outfit, we have as easy-to-use and as comfortable equipment as you can get.

Tents and Sleeping

For several reasons, we prefer two small tents to one large one for the four of us. First, we have more privacy. But more important, smaller tents are lighter in weight and easier to pack. With four of us working, the two tents go up as quickly and easily as one large one and come down just as fast.

The tents we use are known to experts as "modified bakers." They have a $7\frac{1}{2}$ x 9-foot floor area, are 6 $\frac{1}{2}$ -feet high in front and 2-feet high in back. They have a rectangular door that is easily screened to keep out bugs and a canopy over the front keeps out rain or bright sun. They afford ample protection from weather or insects and because of the open front are cool in warm weather or easily warmed in cool

* Our plans included several day stopovers in such places as Grand Canyon, the southwest desert, the coast of southern California, Sequoia National Park, Yosemite, the Grand Tetons, Yellowstone, and the Big Horns. A large assortment of books, pamphlets, and personal planning sessions with naturalists who had preceded us virtually guaranteed a large variety of magnificent natural beauty. —The Author



"Camping out and doing our own cooking makes it possible for us to go farther or to stay longer."

"On our stopovers . . . our day started at about 6:00 a.m." Photographs (upper and lower) by Ted S. Pettit.





"It was at spots such as these that we saw our first scissor-tailed flycatcher."
Photograph by Allan D. Cruickshank.

weather. They are large enough to hold two cots, with ample space between for luggage.

For beds and bedding, we use cots, air mattresses and sleeping bags. The cots are built low, only nine inches above the ground. They have steel frames with a canvas cover. The air mattresses are made of plastic and are 4-feet long. The sleeping bags weigh four pounds each, are filled with down, and have full-length zippers.

This outfit is adaptable enough so that we were able to sleep comfortably in 90-degree temperatures at night in the southwestern desert, and in below-freezing temperatures at night in the California Sierras or Big Horns of Wyoming.

Cooking and Cooking Gear

All our cooking, except in rare instances, was done on a 2-burner

Coleman stove. And whenever we camp out of the car, we would not be without that very efficient means of cooking. To it we attribute much of the success of the trip. We were able to stick to our home menus and recipes, which was an important factor as far as the girls were concerned. We felt that a summer vacation was no place to try to build new habits of eating. We rarely tried fancy cooking on the trip, but we did discover that we could cook as quickly and as easily as on our gas range at home.

Our cooking gear consisted of a 7-quart pot, a 5-quart pot, two 3-quart pots, a 6-cup coffee pot and two frying pans, all of which nested

Drawings by Gardell Dano Christensen.

in the large pot. For eating we used flexible plastic cups and soup bowls, aluminum plates, and stainless steel silverware. Kitchen utensils were made up of a spatula, long-handled spoon, long fork, and a sharp knife—all of which fit in a canvas carrying case. We stored water in two 4-gallon desert water bags. Refrigeration was supplied by an aluminum camp ice box that held a 25-pound cake of ice with room for 1½-cubic feet of food—milk, meat, fruit juices, lettuce, soft drinks and such things that need refrigeration.

Except on those days that we spent driving, we usually had hot breakfasts, simple lunches, and hot dinners. Sample menus for three days would be:

"We did not need guides to find bears in Yellowstone and Yosemite." Photograph of black bears by Jack Dermid.





"Our Plymouth four-door is easily converted into a self-contained unit." Photograph by Ted S. Pettit.

1ST DAY		
Breakfast	Lunch	Dinner
Juice	Chicken soup	Chicken and rice on hot biscuits
Cold cereal	Ground ham sandwiches	Salad
Bacon and eggs	Cookies	Fruit
Toast, coffee, cocoa	Tea or milk	Coffee, milk

2ND DAY		
Breakfast	Lunch	Dinner
Juice	Soup	Hash and eggs
Cereal	Cheese, jelly sandwiches	Peas
French toast, syrup	Chocolate bars	Salad
Coffee, cocoa	Tea or milk	Fruit
		Coffee, milk

3RD DAY		
Breakfast	Lunch	Dinner
Juice	Soup	Fried fish
Cereal	Sliced egg, jelly sandwiches	Boiled potatoes
Griddle cakes	Fruit	Green beans
Coffee, cocoa	Tea or milk	Fruit
		Coffee, milk

Packing the Car

Early in our camping experience we found that how we packed the car was very important. Almost anything had to be readily accessible, without repacking the entire car.



"We were sidetracked by a family of dippers, the first we'd seen." Photograph by William Dawson.



Always at hand, naturally, were binoculars, cameras, field guides, food, first aid kit, raincoats, etc. But suppose we arrived at a campsite in the midst of a hard rain? We wanted to be able to get at tents, poles, stakes, and bedding without unpacking everything else. Or suppose we stopped for lunch beside a trout stream or lake? It might be fun to fish for an hour if tackle were easily reached.

This problem led to our designing and building a car-top carrier that is 4 x 5 x 1-foot high. Actually, that carrier is three boxes: one 5 x 1 x 1-foot (to hold tent poles, fishing tackle, and sleeping bags); one 3 x 1 x 1-foot (to hold cooking gear and food); and one 4 x 3 x 1-foot (to hold four suitcases and a duffel bag of clothing). The carrier was made of plywood and fastened to the car-top on a regular cross-piece and suction cup arrangement, available in most auto supply shops. We made the carrier solid, that is, closed on top, to protect the contents from rain and dust, and also so that it could be locked.

In the car trunk we carried the camp stove, tents, camp table, and seats. The ice box went on the floor in the back seat, so we could get food or cold drinks with no trouble. Thus we could get at anything without a lot of shifting and unpacking.

A Day on the Road

On the days that we spent driving, we broke camp before sun-up and were on the road by 5:30 a.m.

We would have a quick breakfast before we started, usually of fruit juice, coffee and cocoa (made the night before and stored in thermos jugs), and cold cereal. About 8 a.m. we would stop for a second breakfast, either just off the highway or at one of the roadside picnic tables that many state highway or conservation departments so hospitably supply. It was at these stops that we usually saw most of our birds for the day.

Unfortunately for the beauty of our roadsides, but more or less fortunately for bird watchers, many American tourists display rather poor outdoor manners. All kinds of trash and garbage littered the roadsides and was concentrated especially at the picnic areas. But this same trash, however unsightly, seemed to attract birds, directly or indirectly. Frequently too, the few trees or shrubs at the western picnic areas were the only ones for miles around and provided what little cover there was for birds.

Some birds fed directly on the picnic leftovers. Others fed on the insects attracted by the garbage. Some of the predators hunted over the trash piles watching for small mammals and birds that went there to feed.

It was at spots such as these that we saw our first scissor-tailed flycatcher, western flycatchers, desert sparrows, western red-tailed hawks, magpies, Swainson's hawks, and other birds. While making such breakfast stops we saw our first jack rabbits, coyotes, Mississippi kites, sage hens, antelopes, and sidewinders. These stops gave Ann her chance to scout the countryside for rock, mineral, and fossil specimens, which by the time we arrived home, had added nearly 200 pounds to our already overweight load.

About noon we would stop again for lunch somewhere near or along the road, but by then the heat was such that we saw few birds. Usually, we stopped for the day about 3:00 p.m. and set up camp. By five we were ready for an hour's hike around the campsite to look for more birds. We would eat dinner about six-thirty and be in bed by nine.

A Day in Camp

On our stopovers of one day to a week, our day started about 6 a.m. You guessed it—with a quick break-

fast and a bird hike. At eight we'd have a second breakfast, then go fishing, hiking, and driving to a different part of the park or camp area. We would spend all day riding our individual or collective hobbies as the mood struck us. One day, we started to go fishing for cutthroat trout. The stream was in a canyon in the Tetons, but we never did wet a fly. We were sidetracked by a family of dippers, the first we'd seen. Because of the crystal clear water, we could see these strange birds do everything they had been said to do, from walking under water to flying behind the falls. For nearly two hours we sat fascinated, watching the ouzels, and by the time we had tired of that pastime it was too late to fish.

Another day we started fishing and saw our first trumpeter swans—two adults and one cygnet. While watching the swans we saw other birds, and in the end the birds won out again. But we did spend some time fishing, and several meals were made up of cutthroats that were just as good to eat as they were fun to catch.

If we were camping in a national park, we spent our evenings at the campfire lecture programs and had many genuinely delightful and instructive sessions learning about the flora and fauna and the geological history of Grand Canyon, Sequoia, Yosemite, Jackson Hole, and Yellowstone.

The sincerity and dedication of purpose of the national park naturalists whom we met was one of the real inspirations of the entire trip. Most encouraging too, was the interest shown by comparatively large audiences at these evening programs. Our one regret was that some of the Washington politicians who have been successful in reducing park service budgets, will not come to our national parks during the summer and see for themselves the tremendous value of these areas. If they would but spend some time there, and watch and listen, they could not help but see the spiritual, mental, and physical benefits that result from vacations in national parks where some 45-million individual visits were made last year.

It is our humble opinion that all too few politicians appreciate the recreational values of our national

parks, forests, and wilderness areas—values that increase in importance as our way of life speeds up and becomes so much more complex. We feel sure that if our representatives of both federal and state governments spent less time drafting legislation that would destroy our forests and parks and more time in camping out in these areas, there would be some new outlooks on the importance of such unique, natural beauty areas.

By additional national park funds we don't mean money for new super highways, summer resort hotels, and such park development projects. We do mean improved facilities for tent camping, if only better upkeep of what is now available. Our observations—during the height of the summer tourist season—indicate that roads existing now are adequate to handle the traffic of those who are not genuinely interested in the outdoors, but who want only to drive to the edge of a canyon or glacier, click a picture to prove "I was there," then drive on to an air-conditioned motel or hotel. But some of the parks do need more space for camping—by those who are camping because they love the outdoors and the spiritual values it supplies, and who would not be able to visit the parks were it not for the camping facilities.

National Park Nature Programs

Much of the success of our bird-watching experience was due to park naturalists and their staff members. Without exception, we received all the help we needed both in identifying new species and locating the best birding spots. Some parks had checklists to use as guides. But where they were not available, we got comparable help for the asking. Collections of animal, plant, and rock specimens, and local field guides were opened up to us at any time of day—and a couple of times at night. In a few cases where individual birds might be difficult to find, we were personally conducted to the area. Thus we saw bush-tits, the western quail, a great gray owl, rosy finches, a cow moose and a calf, nesting solitaires, and other birds and mammals that we might otherwise have missed.

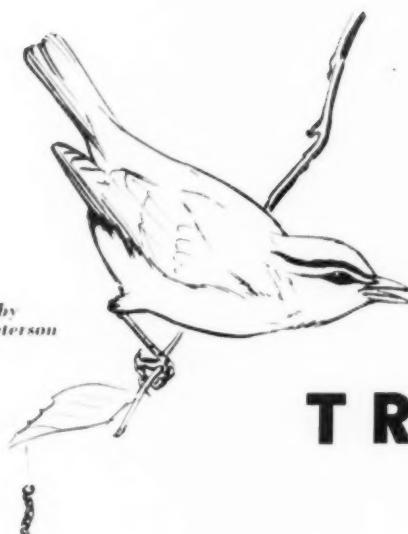
We did not need guides to find the ever-present bears in Yellow-

Continued on Page 138

In 14 waking hours, a red-eyed vireo sang for 10 hours. Through its singing, an observer learned something of the character of

THE VOLUBLE *Singer*

*Drawings by
Roger Tory Peterson*



OF THE

TREETOPS

By Louise de Kiriline

ONE of my favorites among birds is the red-eyed vireo. I know him well and he appeals to me particularly because in looks and comportment he is such a smooth and elegant bird. Slow motion is his specialty, but sometimes he is brimming with nervous energy and moves faster than the arrow in a streamlined fashion all his own. I do not think that the epithet "sluggish," so often used about him, fits him particularly well. It seems to me that we shall need to find another and a better word, one that contains the elements of sobriety and fluidity.

About his singing, terms have been used that are not altogether complimentary — monotonous, repetitious, preacher-like—and I was always inclined to question the aptness of these descriptions. Was he as tireless as his reputation would have him? When in the day did he start

singing, when did he stop? Was there any relation between his manner of singing and his character which, if known, would dispel the impression of what might seem monotonous and repetitious? Were his moods, needs, and temperament reflected in the nuances of tone, in the speed and the manner of the delivery of his songs? What I hitherto knew of the red-eyed vireo's singing gave only part of the answers to these questions.

When the call came from the British ornithologist, Noble Rollin to make an all-day study of some special bird activity, I thought this was a fine opportunity to devote to the red-eye. Everything fitted in very well, too, because the day I was able to do the survey was May 27, 1952, a few days after Male A had taken up territory in my study area at Pimisi Bay which, as the crow flies, is about 180 miles north of Toronto, Canada. But at this time my bird

was still without a mate and there would, presumably, be few claims upon his attention other than singing and feeding.

Pre-dawn, the most enchanting and mysterious moment in the 24 hours, reigned when I came out at 3 a.m. A soft, misty light prevailed, not enough to see but enough to surmise the outlines of the trees and the opening in the woods through which the trail led, the delicate luminosity of the night. A whip-poor-will called at close quarters, a loud song and passionate of tempo, for he was in the midst of his love-making. I counted 37 whip-poor-wills; then silence. Then he began again.

I walked into the vireo territory, armed with notebook and flashlight and wearing a warm sweater. It was chilly, the temperature was 43 degrees, and the wind light from the West. A faint streak of dawn appeared at the eastern horizon, stealing the light from the stars.

Across my path, two veeries began calling, soft interrogative notes that never awaited an answer. Then, muted like a heavenly whisper, the thrushes began to sing. Penetrating the dusk and hanging deliciously upon the air, these whisperings seemed unearthly, but they represented the most potent reality of these birds' lives. For this was the time when competition between their males was strong, when pairing took place and nesting locations were chosen, when the blood within them ran fast and their sensations were acute.

A PURPLE finch flew over, *tuck-ed*, and gave a burst of song sweeter than honey. His season was a little ahead of the veeries', beyond the culmination of passions, and his song, therefore, was like an afterthought, a reminiscence of what had stirred in him before the nest-building and the laying of the first egg.

As the light increased, the singing of the veeries became louder and intermingled with the weirdest discordant notes and exclamations, suggesting an excitement which intensified with the approach of day. Startling and strange was this conversation between the thrushes, as it emanated explosively from the depths of the underbrush close to the path where I stood, now here, now over there. Then, all of a sudden, the swish of a rapid flight low through the bushes from one place to another. Since their beginning, these rituals and displays, these unanswered and unanswerable queries from one tawny thrush to the other, evolved into the charming game I just now witnessed.

But no vireo was yet awake.

Beyond the valley of the spring, the rose-breasted grosbeak began to sing, songs so deliciously lyrical that the bird himself seemed loath to end such a fine performance and took to his wings the better to enact an accomplished finale. In the top of a green birch, the robin caught the theme of the grosbeak's impassioned utterance, but geared it down to a song modulated to please a mate sitting quietly on well incubated eggs. For at this moment, the robin's song was not of territorial announcement or self-assertion, but one symbolizing the bond between two closely attached creatures.

Light came and at 4 o'clock I could see to write without the flashlight. During the next 22 minutes, the number of birds that had testified their awakening rose to 20. A pair of yellow-bellied sapsuckers breakfasted on the sap of a white birch before resuming work on their nest-hole. A crow flew over, welcomed by no one, but busy on its own with nest and eggs. A porcupine, climbing an aspen for a feed of green bark, sounded to me like a black bear, and a great blue heron flew over my head and croaked so loudly that, weak-kneed, I nearly sat down on the spot.

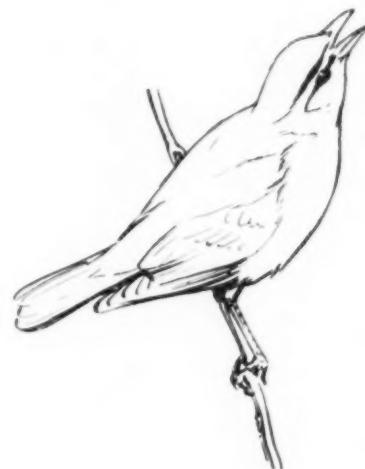
By this time, had I not known that my vireo was somewhere on this piece of land whereupon I stood, I would have despaired of his intention ever to sing again. But then, surprisingly, because I had waited so long, exactly nine minutes before sunrise, the red-eyed vireo serenely began dropping phrase upon phrase of song into the confusion of all the other bird-voices. With such a casual dreaminess did this long-awaited awakening happen that it required some seconds to penetrate into my consciousness, and forced me to start counting his inaugural sets of two and three notes at five.

I FOUND him high in the crown of a trembling aspen. There he wandered about, hopping from twig to twig, looking around, up and down, from side to side. His bill opened and closed, his throat bubbled, and his crest rose lightly and fell with the rhythm of his utterances. He sang, phrase following upon phrase, with just enough interval to mark a disconnection between them. He sang with an aloof intensity and confluence that seemed totally to divorce his performance from any special objectives and reasons. This bird sang simply because self-expression in song was as much a part of his being as his red eye.

In the next 100 minutes, when the birds filled the woods with the greatest volume of music, our vireo achieved all his vocal records of the day. Thus, from 5:00 to 6:00 a.m., he sang the greatest number of songs in any hour—2,155 phrases. From 4:22 a.m., just as he began singing, to 5:00 a.m., he attained his highest speed of delivery, an average of nearly 44 songs per minute; from

6:05 to 6:10 a.m., he sang the most songs in any five-minute period of the day, an average of 70 songs per minute.

Yet, breathless would not properly describe the performance of this bird. He continued to sing for the next three hours with a perfectly



calm and casual continuance that at the end amassed him a total of 6,063 songs, delivered at a speed of 40 songs per minute. During this time, he allowed himself six pauses of from one to six minutes each, which he divided equally among the three hours. While he sang, he wandered leisurely from one part of his two-acre territory to the other, selecting his way through the foliated crowns of the tallest aspens and birches. Had not his trail been so clearly marked in song, it would have been a problem for me to follow this bird which moved at such heights and blended so well with his surroundings.

Although my vireo often fed while he sang, and sang with his mouth full, more concentrated feeding called for silence, and the important business of preening claimed all of his attention. Once a trespassing vireo, a stranger, interrupted him. Abruptly he stopped singing and, like an arrow released from a taut bow, he shot down from his tall perch directly in pursuit of the intruder. And with that, the incident closed. With his only red-eye neighbor settled on an adjacent territory to the north, our vireo had no alterations. On one occasion during the afternoon, the two happened to come close to their common border

at the same time; but from this nothing more serious resulted than that the birds for about a quarter of an hour indulged in competitive singing.

A little before 9 o'clock in the morning, my vireo stopped singing. Up to this time he had spent almost four out of four-and-a-half hours singing continuously. This was a remarkable record as, apart from the need of advertising himself and his territory, nothing occurred to call forth extraordinary vocal efforts on his part. Red-eyed vireos do not always sing as persistently as this bird did, especially during the first days after arrival from the South when leisurely feeding is often the keynote of existence to many of them. Nor do all individuals possess the same capacity for vocal expression. I have known at least one other red-eyed vireo whose total number of songs in a day, even at the most exciting period, probably never reached four figures. As to the pursuit of the strange vireo, I surmised that this bird was a passing female, because my male *stopped singing* and dashed off chasing it, instead of challenging it by voice and gesture. That nothing came of it only suggests, that for the female, the moment was not auspicious.



The next half-hour my bird spent feeding and preening. He descended from the heights of the tree crowns to the middle strata of the woods where, one may presume, he found more privacy in the secluded leafy niches. Then, once more, he resumed singing. While he still attained a speed of 38 songs a minute when he sang, his average from 9:00 to 10:00 a.m. was only about six songs a minute for the whole hour. This proved

to be an interesting fact, because, regardless of his hourly averages, his speed of singing consistently and gradually declined throughout the day. In other words, he sang more and more slowly as the day advanced.

After his hour of rest, the vireo achieved a forenoon peak of singing that lacked only 13 songs in reaching as high a total as that obtained from 5:00 to 6:00 a.m. He worked up to this peak in the hour before noon, but would, I think, have reached it earlier had he not wandered into a grove of trees heavily infested with the forest tent caterpillar. Here he distracted himself with a great deal of flycatching on the wing. If his objective were the eating of the tachanid flies, which prey on the tent caterpillars, this activity, from a human viewpoint, may not have been useful. But, of course, I could not be sure that these were the insects he caught. As to the caterpillars, my vireo tramped lightly over masses of them, apparently without recognizing them as food. When, through binoculars I saw these worms as wriggling shadows on a translucent leaf, then the bird knew instantly what to do with them — he snapped them down, dashed them to pulp on the twig at his feet, and ate them.

FROM dawn till noon, the vireo reached a grand total of 14,027 songs, but after this time his singing diminished notably. The interruptions between groups of songs became longer and more frequent, even as he sang more and more slowly. From noon until going to roost, he gave only a little more than half as many songs as during the early part of the day. But even this was a remarkable number and his voice continued to be heard when most of the other birds sang but little or were altogether silent. Moreover, compared with the all-day record of 6,140 songs of an unmated European blackbird made by Noble Rollin on April 5, 1948, my vireo's afternoon performance alone exceeded this by 2,030 songs.

The lesser peak of singing, which occurred during the afternoon, was perhaps partly due to the encounter at the territorial border with the neighboring red-eye to the north. For quite a while, certainly, this

stimulated both birds to greater vocal effort. But the time of afternoon rest came in the next following two hours, when my vireo wandered about within a small area, feeding or sitting on a twig, trimming and polishing every feather in his plumage, and when he sang only a little.

The last hour of his day the vireo spent in the top of a quaking aspen. Here he moved about from perch to perch. I saw the easy opening and closing of his bill and heard his notes drop, one by one, upon the calm air.

ALL day I had heard him singing thousands of songs, of two to four, seldom five, notes. Monotonous, repetitious, preacher-like? His singing was all this, if an utterance that was so intrinsic a phase of a creature's character, so innate an expression of self, could be any of these attributes. What I had heard all day, set to music, was this vireo's instinctive emotions and preoccupations, the wherefores and the end of his very existence.

Lovely and clear, simple and eloquent, his song and intonations continued to reach me from the top of the aspen. Hitherto his voice had been unaffected by his day-long singing. But now, as if he had reached the end, yet only with reluctance gave in, his songs shortened and were often just softly whispered. Then the sun hid behind alto-cumulus clouds and it grew dusky in the vireo territory, while out yonder, at the edge of the forest, the sun still threw its gold upon the trees and hillsides.

Between 6:00 and 6:13 p.m. my vireo sang 44 songs. Two minutes later, with wings closed, he dropped from the crown of the aspen into a thick stand of young evergreens. From here, like an echo of his day's performance, he gave six more songs. Then he fell silent and was heard no more. Officially, the sun set one hour and 39 minutes later.

Fourteen hours, less six minutes, my red-eyed vireo had been awake, and of this time he spent nearly 10 hours singing a total of 22,197 songs. This was his record. But the most important is not the record, but my introduction to an individual bird and the glimpse he gave me of his true character.

By Osmond P. Breland

THREE is probably no large mammal in North America with more unique features than the mountain goat. Living as they do above timberline in remote and inaccessible regions of the Rocky Mountains, wild goats are seldom seen except by a few hardy naturalists, or by hunters who seek a prime head as a trophy.

As one might expect, these hardy mountaineers have a hairy covering that is well suited to protect them from the icy winds with which they have to contend. Fine wool, three to four inches thick, snugly encloses the body; coarse, longer hairs form a shaggy overcoat. The mountain goat is the only native North American mammal that produces wool, and unlike most species, these creatures are white throughout the year. Goats shed their wool from time to time, and in some areas, a large amount may be gathered within a short time. The potential value of this wool was recognized by the Indians many years ago. They gathered it, dyed it various colors, and wove it into blankets and robes. The famous Chilkat blankets and robes are perhaps the best known of these products.

The mountain goat is a heavily-built animal with short, stumpy legs. Both sexes have beards and horns, and the horns, being black, stand out in striking contrast to the white coat. Males are somewhat larger than the females, and they are reported, in some areas, to average nearly 200 pounds. There is, however, considerable individual variation. One male of 276 pounds is on record, and one enormous specimen, killed in Alaska in 1913, is reported to have weighed 502 pounds.

The males are often solitary and they sometimes have a tendency to stand at the edge of a precipice while calmly gazing at the landscape. As the goat stands reflectively chewing its cud, with the icy winds stirring its beard, observers have remarked that they were reminded of certain professors of their college days.

This animal is certainly goat-like in appearance and habits, but it is really not a goat at all. It differs from true goats in several important respects. The horns are shorter and

The Mountain Goat—

Hardy Inhabitant of the Rockies



The mountain goat, *Oreamnos americanus* (upper), is sometimes confused with the bighorn, or mountain sheep, *Ovis canadensis* (lower), and the white bighorn, or Dall's sheep, *Ovis dalli*. The mountain goat has a beard under its chin, and its slender, spiky horns project upward and slightly back; the bighorn has no beard, and the broad-based, massive horns sweep abruptly outward, and, in large specimens, curl forward. Photograph of bighorn by William M. Rush.



remain straight rather than growing into a spiral. Behind each horn there is an oil gland, which so far as is known, does not occur in this position in any other animal. The creatures are actually a type of antelope and are more closely related to the famed chamois of the Alps than to members of the goat tribe. The various common names, all including the word goat, are so well accepted, however, that they are not likely to be changed.

There is still much to be learned relative to the habits of mountain goats; but thanks to hunters and naturalists as well as to observations upon captive animals, considerable information has accumulated through the years. Mating occurs once each year and the kids are born in the spring. Single births are the rule, but occasionally twins are born. The youngsters are precocious little rascals and they may jump and frolic within an hour or so after birth. The first mountain goat ever produced in captivity was born in the New York Zoological Park in 1908. Two days after birth, it weighed slightly more than seven pounds, a weight quite comparable to that of an average new-born human infant.

For several days after the kid is born, it and the mother remain isolated from others of their kind. The youngster feeds on milk from the mammary glands of the female, just as do other mammals, and as it develops, starts nibbling at the sparse vegetation that grows at high altitudes. Lichens, mosses, mountain sorrel, and other hardy plants allow the mountain goats to live where many other herbivorous animals would starve. During the spring and summer the females with their kids congregate into groups as they graze on the mountain slopes.

Although the horns of the mountain goat do not compare favorably in either length or attractiveness with the horns of true goats, a good head is still in demand by big game hunters. The horns are of the hollow type which are never shed by either sex. At one time goat horns as trophies were ranked only by the length of the horns, and during this period, the record head was that of a female, or nanny goat. This animal



The mountain goat is not a true goat; it is a hardy antelope that dwells on the highest mountain tops. Photograph by Hineman from Aeme.

had a horn length of 12-4/8 inches, and, even today, no male with this horn length has ever been killed.

Male goats are not normally aggressive, but if cornered, they will not hesitate to attack anything from a human being to a grizzly bear. Also, during the breeding season, which is usually in November, the males do become pugnacious for a short period. During this time they thrash the bushes and rocks with their horns, and sometimes two males will fight for the favor of a female. This battle is normally not to the death although if one of the contestants suffers a deep wound he may die later of infection.

The enemies of mountain goats include mountain lions, bears, wolves, and eagles, in addition to human beings. They are also subject to parasites such as tapeworms and ticks. It is thought that eagles prey upon young kids that have strayed too far from their mothers, and even the adults when they descend into the valleys may fall victims to bears or wolves. Goats

generally give a good account of themselves in defense of their lives, and the dagger-like horns are effective weapons. Goats have been known to kill several kinds of large carnivores, and there is at least one established record of a goat and grizzly bear fight in which both animals were killed.

Many naturalists believe that snowslides kill more goats than any one factor, but this cataclysm of nature also operates in the animals' favor, for when avalanches and snowslides are at their height, human hunters avoid the high mountains where the goats live. Much of the time the goats are on peaks above the snowslides, but the animals are exposed if they descend into the valleys and ravines.

There has been considerable argument among naturalists as to the comparative mountaineering abilities of mountain sheep and mountain goats. Mountain goats frequent regions that are much less accessible to humans than do mountain sheep. Some naturalists maintain that goats routinely traverse trails of such difficulty that mountain sheep will not try them unless trying to escape a greater danger. During the winter,

goats remain at high altitudes, long after the mountain sheep have gone to lower levels. If one takes all facts into consideration the conclusion seems inevitable that the mountain goat is a better mountaineer than any other species of North American big game.

Many naturalists maintain that the principal difficulty in seeing goats close at hand is in gaining access to their haunts.

The mountain goat appears to have been less affected by man than any other North American mammal that is classified as big game. Today the range of the goats is essentially the same as it was many years ago. In the United States, mountain goats are found principally in the mountains of Montana, Idaho, and Washington. The range extends northward through the mountains of western Canada and into southern Alaska.

Even in the future, human beings are not likely to invade the haunts of the goats in large numbers. For this reason we hope that these bearded, cud-chewing patriarchs of the mountains will be safe from extinction for many years to come.

Beginning in April, all through May and into June, the largest of our plovers is moving northward to its arctic breeding grounds. Across the breadth of the United States it is migration time for the

KING OF THE SHOREBIRDS, *The Black-Bellied Plover*^{*}

By Henry Marion Hall

THIS largest and most magnificent of American plovers is the king of all the birds which throng our beaches or wing above the eternal surf. Ten-and-a-half to well over 13 inches long, it has a wing-spread of from 22 to 25 inches. It is robust, with powerful pectoral muscles to drive its extremely long wings and carry it round the shores of the Seven Seas.

Black-bellied plovers breed all the way from Point Barrow, Alaska east to the frozen Melville Peninsula, to Greenland and the arctic coasts of Europe and Asia. On their southward migration they reach Brazil and Peru. From European shores they trek to South Africa and Madagascar. A Siberian variant, almost indistinguishable from the American bird, flies down to India, the Malay Peninsula, and Australia. Black-bellied plovers fly north, south, east or west over most of the beaches of the world.

The loud, clear cry of "Toor-a-leel Toor-a-lee!" floating from the clouds in early April, heralds the descent of these plovers on our beaches. They suddenly appear on the sands from New Jersey and Long Island to Martha's Vineyard, Nantucket, and Cape Cod. They linger until the middle of June, when they depart for their nesting areas on the arctic tundra and coastal islands in the polar seas.

In bridal plumage the black-bellied plover is striking. Its under plumage is jet black from chin to thigh, with a faint metallic gloss. The forehead, sides of its large head, and the tail coverts are snowy white, very conspicuous even at considerable distances. The pattern of the back and shoulders is largely grayish with dusky markings, and much white shows on the upper wings in

flight. The axillars are black and may be plainly seen whenever the plover flushes. The legs and feet are lead colored, and the front toes webbed at the base. The hind toe is rudimentary or missing. The sexes are alike excepting that light streaks show in the black bellies of some females. The winter plumage is plainer, is slightly paler everywhere, and the sable under parts are broken up by white streaks.

The black-bellied plover is a creature of the tides. It rests in green salttings when the water is high but is always first at the feast when the tide bares vast expanses of sand or mud, leaving behind countless millions of hoppers, sand-worms, and minute crustaceans. Feeding there until chased out by the next flood tide, the plovers fly back into the meadows to rest, or start on another lap of the southward migration.

Our eastern bays, estuaries, and marshes offer feeding grounds almost without limit. At Plymouth, Barnstable, Yarmouth, Rock Harbor, Wellfleet, Chatham, Monomoy, Nantucket, Martha's Vineyard, and all the inlets and estuaries from Montauk to Fire Island, thousands upon thousands of acres of tidal flats spread marine tables for all our shorebirds. And there are even larger feeding areas from Sandy Hook to the marshes of Glynn in Georgia, and from there to the southern tip of the great Floridian peninsula.

On the white sands facing all these flats you will see the large, clear footprints of the black-bellied plover, showing bigger and bolder than the tracks of ruffed grouse on drifted snow. They are far apart where the plover have been racing one another and end where the birds have launched into the air.

It is noteworthy that whereas the market-gunners almost annihilated

the main flocks of the golden plover before legal protection rescued the remnants, our black-bellied plovers were never greatly reduced in numbers. They were gunned, of course, but not to any dangerous extent. Having lived close to the beaches for 30 years, and having watched the shorebirds come and go, I think I can explain why black-bellied plovers never suffered such casualties as the beautiful golden species.

Black-bellied plovers are more wary, always keeping out of range of vagrant boys armed with inferior guns and without decoys, and they usually fly in smaller flocks. I must admit that when it was legal to hunt them, they came readily to decoys, particularly the young of the year, and were readily "whistled in." I have known a flock of these young plovers to decoy to a duck stool. This may seem like a stupid performance, but it is not typical. Mature black-bellied plovers more frequently drove past the hunter at almost incredible speed, barely dipping to the decoys and out of gunshot in an instant. Even concealed in deep pits, using decoys, and supplied with plentiful ammunition, it took a crack shot to make high scores on these birds. All this required money, effort, and equipment beyond the means of "pot-hunters."

Another thing helped black-bellied plovers to survive even in the days when they were considered legal game and were sold in city markets. In mild weather the biggest flights dawdled in the North and moved south rather late. Sometimes they did not arrive until sportsmen were too much preoccupied with ducks and geese to take any interest in

* Variously known as gray plover, gump, bottle-head, bull-head, beetle-head, black-heart, and black-breast, the black-bellied plover, *Squatarola squatarola*, is almost world-wide in its range. On the Pacific Coast, it winters from southern British Columbia to California, south to Peru and northern Chile; in the southeastern United States from Louisiana and North Carolina south to Brazil.



Drawing of black-bellied plovers coming to decoys by Ralph Ray, Jr.

shorebirds. Migration by night and a tendency to keep well offshore on their southward journey likewise saved any number of flocks from persecution.

The flights of the black-bellied plover over salt water were comparable to those made by the golden species. And like those beautiful migrants, its flesh in the fall is so thickly coated with fat that they could not be cooked without removing the layers. Presumably both species of plovers burned up their fat by muscular exertions over immense distances.

A funnel-shaped extension of Provincetown Harbor extends more than a mile to the neck of the Cape, here only 30 paces across from the tideway. Following the creek, migrating shorebirds all pass this bottleneck, after which they fly toward Race Run, two miles northward, or take off for the lower cape across Cape Cod Bay.

As a lagoon, or at half tide its dry bed, lies directly under this flyway, a pit dug there and screened by an armful of weed, makes a strategic blind. Its precise location was my own secret for many years, and I still use it occasionally for observing migrants at close range. A dozen snipe decoys or plover decoys will generally "toll down" birds enough to satisfy anybody. It is an excellent spot to take motion pictures.

The last week in August and the first in September are golden days on the sea-meadows of the Atlantic Coast. Sometimes the wind will blow

cool and sweet, the sun is like a vast jewel in the sapphire sky, and the plovers come whistling across the broad expanse of green. It would be difficult to say which is the more beautiful—the piping of the birds or their flight on down-curved pinions, itself music made visible.

Black-bellied plovers, or "beetleheads" as they are termed locally, come winging steadily along as swiftly as wildfowl, in a crescent-shaped flight consisting of anywhere from five to a score. When the breeze is strong they drive by at a terrific pace, quite as fast as canvas-back ducks. If they see a patch where salt hay has recently been cut, they may be attracted to it, but most of them pass at a speed that makes you gasp.

They have been disturbed at breakfast on flats in Cape Cod Bay and generally reach you long before the first glint of water tells that the tide is following up the dry creek-bed. The flight often continues while the tongue of the advancing creek licks out over the sand beside the blind.

Sometimes the water comes no farther, but when the full moon and the sun are pulling together, particularly toward the autumnal equinox, this entire district—sands, salttings, and creeks, is overrun by the ocean. At such times, if easterly storms have piled the Atlantic in on our shores, you may fancy that the sea will swallow the whole tip of Cape Cod.

Marvelous as the bright days are,

the weather in which to witness a really large flight is usually foul. On one occasion it was my good fortune to see a press of plover which must have resembled those reported in old times.

It had rained steadily for three days, with a northeast gale, and it was a "high course tide" in September. I foresaw that the tide would drown me out of my blind, yet I lingered until it had engulfed the meadows and converted the salttings into a swirling sea. In my immediate neighborhood only a hummock or two still projected above the racing sea water. My decoys kept tumbling over and drifting away, and finally the sea seeped into my dug-out. I then crawled to the crest of a hillock and clung there.

All at once black-bellied plovers came hurtling up the creek-ways from the harbor. They appeared at first in dark flurries of a dozen or so, then in bows numbering nearly a hundred. Thicker and bigger came the bunches, one after another for the next 20 minutes.

Now and then came an interval when I thought the show was over, but more plovers followed, always helter-skelter like wind-blown leaves. They were certainly not local plovers which had been dawdling on the Provincetown flats. These had passed some hours previously, as they always do. I must have been watching a large flight which had been driven in from sea while passing over the ocean to the east of Cape Cod.

THE PRESIDENT

Inviolate Refuges Threatened

The Duck Stamp Act of 1934 provided, among other things, that "not less than 90 per cent" (of monies received for duck stamps) "shall be available for the location, ascertainment, acquisition, administration, maintenance, and development of suitable areas for inviolate migratory bird sanctuaries, under the provisions of the Migratory Bird Conservation Act."

The bill to amend the Duck Stamp Act in 1949, S-1076, provided for insertions such that sub-section (a) of section 4 of the Act be amended so that it would read in part "that in the discretion of the Secretary of the Interior not to exceed 25 per cent at any one time of any area acquired after July 1, 1949, in accordance with the provision of this act, may be administered primarily as a wildlife management area not subject to the prohibitions against the taking of birds, or nests or the eggs thereof, as contained in section 10 of the Migratory Bird Conservation Act of February 18, 1929, as amended, except that no such area shall be open to the shooting of migratory birds when the population of such birds frequenting the area or in the migrations utilizing such area is on a decline, nor prior to July 1, 1952, or the date upon which the same has been fully developed as a management area, refuge, reservation, or breeding ground, whichever is later."

The report of the Senate Committee on Interstate and Foreign Commerce #503 of the 81st Congress, first session, recommended the enactment of S-1076 with

phraseology as above quoted, and includes the following statement: "Communications received by the committee indicate that there is confusion as to the purposes of this legislation and a misapprehension on the part of some people that this bill will permit the existing inviolate migratory bird sanctuaries to be opened to public shooting. There is nothing in this bill that will authorize the opening of areas heretofore acquired as inviolate sanctuaries, and it is not the intent of your committee that the presently existing inviolate migratory bird sanctuaries be opened to shooting."

The report of the House Committee on Merchant Marine and Fisheries #946 of the 81st Congress, first session, contains the identical statement above last quoted but it also contains a recommended amendment that the words "after July 1, 1949" be eliminated. The House passed the bill with that amendment included. Then, in committee conference between the Senate and the House the Senate accepted the amendment eliminating the words "after July 1, 1949." The elimination of those few words legalized the opening of the inviolate sanctuaries in part to hunting, and is directly contradictory to the statement of the Committees' intent.

At the hearings in 1949, and, in fact, at hearings and discussions during 1947 and 1948, with regard to similar proposed amendment of the Duck Stamp Act, the several national conservation organizations all took the position that the refuges acquired with duck stamp funds prior to July 1, 1949 should be maintained as inviolate. The National Audubon Society and the American Na-

John H. Baker (left), President of the National Audubon Society; Stanley C. Arthur (center), author of "Audubon—the Intimate Life of the American Woodsman"; and William W. Wells, Director, Louisiana State Parks and Recreation Commission, at Oakley Plantation, March 14, 1954.



REPORTS TO YOU

By John H. Baker

President of the National Audubon Society



ture Association opposed the amendment permitting after July 1, 1949 the setting up of wildlife management areas that might be opened in part to hunting, but felt that their main point had been carried when the matter was compromised, as all the organizations understood at the time, by retaining the inviolability of the areas acquired prior to July 1, 1949.

Not only was the intent of the committees of Congress set forth clearly in their official reports, but the testimony at the hearings by the then Secretary of the Interior, Director and Assistant Director of the Fish and Wildlife Service, demonstrate that all of these parties favored, or at least agreed to retention of, the inviolability of the refuges bought with duck stamp funds prior to July 1, 1949. All this is on the official record.

Late in 1952, an order was issued opening the Brigantine National Wildlife Refuge in New Jersey in part to hunting. It so happens that none of the national conservation organizations were aware of this fact until the fall of 1953.

About the end of September, or early in October, 1953, the Fish and Wildlife Service issued orders opening to hunting in part five supposedly inviolate national wildlife refuges: the Horicon, Willapa, Tamarack, Brigantine, and St. Marks. We then made strong representations verbally to Mr. Farley, the then and present Director of Fish and Wildlife Service, urging him, as a matter of policy, not to take advantage of any legal technicality

and to recognize what seemed to us the moral obligation of the Fish and Wildlife Service not to open in part to hunting any of the areas acquired with Duck Stamp funds prior to July 1, 1949. We sought legal advice and were informed that it appeared we had a strong moral case. Some of us who talked with Mr. Farley gained the impression that, after carefully reviewing the matter, he would consider a change of policy in the fall of 1954 such that the "inviolate" refuges might not be opened in part to hunting. At the recent North American Wildlife Conference in Chicago he gave an address, a substantial portion of which was devoted to this subject. It now appears that the Fish and Wildlife Service intends to open not only the "inviolate" refuges that it has opened in 1952 and 1953, and, in some cases, to open larger areas thereof to hunting, but also to issue orders opening additional "inviolate" refuges in 1954.

We have recently been advised that the Budget Bureau with the acquiescence of the Department of Interior has eliminated from the Fish and Wildlife Service budget for the fiscal year 1955 any allocation of duck stamp funds for the acquisition of national wildlife refuge lands; such action would not result in a saving, but simply shift the expenditure to other use.

At a luncheon meeting of representatives of national conservation organizations in Washington recently, all this was considered. It is currently anticipated that legislation will be jointly sponsored which, among other

Oakley Plantation, St. Francisville, Louisiana, during dedication ceremony. (For an account of this see page 118 of this issue.)



things, would legally restore the inviolate character of all the national wildlife refuges acquired with duck stamp funds prior to July 1, 1949 and would earmark a definite percentage of each year's duck stamp funds for the sole purpose of acquisition of national wildlife refuge lands.

Dedication of Oakley Plantation

It was on June 18, 1821 that Audubon landed at Bayou Sara and, with his 13-year-old assistant, walked to Oakley, delighted with the beauty of the scene, noting joyfully the abundance of singing birds and admiring the oaks, magnolias, hollies, and poplars. Mr. and Mrs. James Pittie of Oakley had engaged Audubon, then in New Orleans, to give drawing, dancing, and music lessons to their daughter Eliza. The understanding was that Audubon would have one-half of each day free to roam, draw, and paint. While at Oakley he completed 32 of his famous paintings.

To remarkable degree, Audubon's success is attributable to his devoted wife Lucy, who spent seven years in St. Francisville and endeared herself to its people. It was her earnings as teacher that financed Audubon's first trip to England and France, where he at last found acclaim and support. It was from St. Francisville that Audubon fared forth to fame and fortune.

The entire program of your Society is being carried out in the name of John James Audubon and most appropriately so. Audubon possessed uncanny foresight in envisioning, in the 1820s and '30s, in a time of abundance, the coming need of conservation and of educational efforts to dispel public apathy and prejudice.

Audubon loved the beautiful West Feliciana countryside and cherished Louisiana as first in his affections. St. Francisville, West Feliciana Parish, and Louisiana are more than entitled to feel that they, too, fathered the modern Audubon conservation movement.

Through the courtesy, and at the invitation of the Louisiana State Parks and Recreation Commission, your president enjoyed the privilege on March 14 of dedicating Oakley Plantation, where Audubon spent so many happy days and painted so many of his famous works, as Audubon Memorial State Park.

Size of Everglades Park Increased

An order adjusting the Everglades National Park boundaries was signed by the Secretary of the Interior in March. By this action the size of the Park is increased by 271,000 acres west and north of the previously existing boundaries and south of the Tamiami Trail. This brings the total area of this Park to approximately 1,500,000 acres—about 650,000 acres less than was authorized by Congress in 1934.

Of the added 271,000 acres some 30,000 are already in federal ownership and the balance is owned by the State of Florida and private holders. On the western edge of this addition lies the Audubon Sanctuary of Duck Rock, famous for the great spectacle provided each summer season by 100,000 or more herons, egrets, and ibis coming in nightly to roost.

In spite of prior commitments by the State of Florida

as to inclusion in the Park of the lands it owns in this added area, the state's cooperation has been made an issue in the gubernatorial election campaign, such that necessary action by the state has been delayed until after the Florida primaries, early in May. Pending further developments, your Society will continue its guardianship of the Duck Rock Sanctuary, which it leases from the Internal Improvement Fund of the State of Florida.

The Society is wholly in favor of inclusion in the Park of the added 271,000 acres which, among other things, will provide an inland waterway route much of the way south on the west coast, from a point just below the town of Everglades, and should facilitate legislation to extend the authorized boundaries to include the lands offered to the government for inclusion in the Park by the Collier Corporation, and escrowed with the state pending such action.

Mr. Rockefeller's Contribution to Calaveras South Grove

Mr. John D. Rockefeller gave in April \$1,000,000 through the Save-the-Redwoods League to the California State Park Commission, conditioned upon matching with state funds, such that the beautiful primeval forest of sugar pines, ponderosa pines, and giant sequoias in the Calaveras South Grove may be preserved as a state park. The \$1,000,000, together with other gifts of land and money from the federal government and from individuals and organizations, through the Save-the-Redwoods League and the Calaveras Grove Association will, when matched with state funds, make possible the payment of \$2,800,000, the price agreed upon for the purchase of 2,155 acres from the Pickering Lumber Corporation. Thus Mr. Rockefeller adds to his already magnificent record of generosity in making possible the inclusion in national and state parks of areas of outstanding scenic beauty and groves of virgin forest.

Hunting and Fishing Licenses Sold in 1953

In the fiscal year ending June 30, 1953 there were sold 14,832,779 state hunting licenses, as contrasted with 13,902,428 in the preceding fiscal year. The dollar product was \$40,551,316. In the same period there were sold 17,652,478 state fishing licenses which produced \$35,602,903.

President Eisenhower Approves Echo Park Dam

We regret to inform you that the President of the United States, in a message to Congress, urged the enactment of legislation authorizing the construction of the Echo Park Dam in Dinosaur National Monument, at an estimated cost of \$176,400,000. Legislation so providing has been recommended to the House by its Subcommittee on Irrigation and the key conservation issue over the location of this dam within the boundaries of that Monument is at this writing in the lap of Congress for decision. The full Committee on Interior and Insular Affairs is expected to report the Bill favorably. The real showdown will come on the floor of the House. If, at the time you read this, you have not learned from the

papers or otherwise of final action by the Congress, and you have not already communicated with your own Senators and Congressmen, we urge you to express your views to them.

Successful Southeastern Regional Audubon Convention

A main objective of the recent successful Southeastern Regional Audubon Convention, held in Miami, was to bring together the representatives of many organizations in the Southeast, especially in Florida, concerned with the conservation of natural resources; this in order that they might become better acquainted, more familiar with each other's programs and, as a consequence, better prepared to join forces effectively in meeting conservation issues of the future.

At the banquet Dr. Olaus J. Murie, president of The Wilderness Society, presented his magnificent film, *"In the Wilderness of Mt. McKinley,"* with its unusual pictures of the mammal life and mountain scenery, accompanied by his keen and delightfully phrased philosophical remarks about the values of wilderness preservation to the citizenry of today.

In addition to the citation given by the Society at this banquet to the Lee Tidewater Cypress Company, as quoted on page 102 of this issue, citations were given to distinguished Florida citizens as follows:

NATIONAL AUDUBON SOCIETY AWARDS THIS CITATION TO JAMES HARDIN PETERSON



James Hardin Peterson.

For 18 years Representative in Congress from the 1st Florida District and a member of the House Public Lands Committee; for 6 years Chairman of that Committee; a man who throughout his life has demonstrated special concern as to natural resources conservation in the public interest; has shown unusual skill in obtaining beneficial results where controversial matters are involved; a key worker for establishment of the Everglades National Park; a man who because of his winning personality and manifold abilities has millions of friends. Outstanding citizen of Florida and of the United States of America.

NATIONAL AUDUBON SOCIETY AWARDS THIS CITATION TO JOHN D. PENNEKAMP

Stalwart champion of natural resource conservation in the public interest; effective promoter of establishment of the Everglades National Park and strong defender of its integrity against encroachments inconsistent with the purposes for which it was set up; able editor and writer; outstanding citizen of Florida and of the United States of America.

• • •



John D. Pennekamp.

Young CARETAKERS OF THE

Here is a splendid example of the conservation of human and natural resources that you may practice in your own community. Through its resourceful leadership, the Bedford Audubon Society has captured the imagination and support of 1,200 school children.

By Alison Carter

IN northern Westchester County, New York, more than 1,200 school children are nature's most successful workers to better her public relations. Here, in an area composed of seven loosely-knit townships, scattered over 150 square miles, these youngsters are vigilantly furthering conservation in their communities. By letters, posters, and in poetry and prose, by word of mouth, in classroom and public meetings, in civic enterprises, and in their personal lives, the children work continually to help keep their country green.

The area they live in has natural beauty and resources well worth saving. Scarcely more than an hour's commuting distance from New York City, in a land interlaced with the waterways that supply the metropolitan area, northern Westchester still has wooded hills, open fields, and quiet ponds. The woodcocks still dance in its meadows; egrets feed along its streams, and deer move through its green thickets.

The beauty of this bucolic spot is



Bedford school children help to control erosion on a steep side slope. Photograph by Lem Hall.

threatened. Already the land shows the scars of encroaching commerce. More and more people are pouring into the northern part of the county as New York business concerns, seeking to get away from overcrowded city conditions, transfer their offices to central Westchester. Land is rezoned to make way for housing projects. Parkways and contemplated parkways criss-cross the countryside. Topsoil is ripped away to make a quick dollar. Swamps are filled to provide industrial sites.

Thoughtful residents of northern Westchester, alarmed at the tide which is slowly engulfing their woods and fields and wiping away their wildlife, are striving to preserve some portions of their natural heritage. They have discovered able al-

lies in the younger generation—these 1,200 school children scattered over the countryside. What common bond has succeeded in uniting these children so effectively?

The answer lies in the strategy of the Bedford Audubon Society, a five-year old branch of the National Audubon Society, whose 380 adult members come from all parts of northern Westchester County. Dedicated to conserving the soil, water, plants, and wildlife of their community, the directors and officers of the Bedford Audubon Society have steadily adhered to their belief that it is not enough to appeal to adults alone. The children, in whose hands lies the future welfare of the country, must be educated to a full understanding of the vital role our

LAND

Stanley Grierson, naturalist (left), shows some Bedford students a live opossum. Photograph by Charlotte West.



natural resources play in their survival. From its earliest days, the Bedford Audubon Society has encouraged children to take an active part in its programs. "Education through entertainment" has always been the policy of the group, and the formula has paid high dividends in the children it attracts. Evening meetings find the youngsters lined up in front rows. Field trips bring out a goodly crowd of youthful mineralogists, botanists, ornithologists, and astronomers. The Bedford Audubon Society's quarterly bulletin is bombarded with their poetry and prose. Telephones buzz with reports of their many "finds," and newspapers carry many stories of their achievements.

Nineteen Audubon Junior Clubs, sparked through the efforts of a very capable Education Chairman, boast

600 members, whose yearly public reports have become an annual community event, playing to packed auditoriums.

This enthusiastic reception of all forms of nature study convinced Bedford Audubon executives that it was part of their responsibility to their community to make their work available to more children. The logical place for this broadened activity seemed to be in the schools.

Reviewing their assets, they concluded they had within their own organization the resources necessary to carry their nature program into the classroom. Not the least of these was one of the members of their board of directors, Stanley Oliver Grierson, who had proved himself overwhelmingly popular with the children. Why not, they proposed, offer this naturalist as a visiting lec-

turer to the schools in a series of nature classes? Convinced they were on the right track, they even planned to underwrite his salary and expenses during the first year, as an experiment.

During the fall of 1951, the directors of the Bedford Audubon Society called on superintendents of the various local schools and outlined their proposition. It promptly aroused the interest of the educators, and 10 schools signed up for the nature course, each requesting Grierson for a half-day a week. The money to finance the trial project was raised through appeals to 25 members of the Bedford Society, outlining the advantages of the program, and asking for subscriptions. The members contributed generously. Sufficient funds were raised to meet Grierson's salary, transportation, insurance, and other expenses.

The Bedford Audubon Society's financial responsibility was limited only to the initial period. At the completion of the school year 1951-52, the various Boards of Education were advised that if they wished the nature courses continued, they must absorb all costs. Most of the schools, impressed by the preceding year's work, gladly included in their budgets their pro-rated share of the cost. Two schools, in an effort to economize, decided to withdraw. The parents promptly protested and one Parent-Teachers Association agreed to assume the cost. In another, the parents put so much pressure on the school board, it was obliged to revise its budget to include the nature program.

During the 1952-53 school year, 12 schools, miles apart in northern Westchester, kept Grierson jumping around the countryside. They included Armonk, Mount Kisco, Katonah, Poundridge, Somers, Lewisboro, Purdy's, Golden's Bridge, North Salem, Bedford Hills, Bedford Village, and the Rippowam School in Bedford. Two schools went on a waiting list, with no available time in sight. Grierson's classes usually fall among the older primary grades, with a sprinkling of junior high school students. Younger children are taken in groups according to ages. From time to time, the entire school is treated to a general assembly—an event that always causes a stir of excitement.



When swamplands bordering parkways were being cleared of dead wood, children wrote indignant letters. Photograph by Anthony Bleecker.

The plan for Grierson's daily work is left to his discretion. Generally, he opens his course with a definition of birds, mammals, insects, and reptiles, illustrated by charts, colored slides, and study skins. Emphasis is put on the value and correct identification of birds of prey, thus discouraging those small boys who feel they must shoot every hawk they see. The children are given a thorough understanding of reptiles. Many a small child, under the naturalist's guidance, has come to look upon snakes as friends, to be protected for the sake of the garden. In fact, they, and their teachers too, have grown so accustomed to snakes in the classroom that they even handle the reptiles without fear.

"Why, they're soft—satiny—warm!" are among their surprised reactions on stroking a snake they supposed was cold and slimy.

Producing live specimens in the classroom is one of Grierson's tricks for catching the children's attention.

He frequently appears with a mysterious box, which turns out to contain a snake, a chipmunk, a turtle, or some other living creature. Probably nothing is better calculated to captivate a child than a tiny saw-whet owl, cocking his pert head, and clowning with his big eyes. And the casual talk that Grierson carries on as the children crowd around, teaches them a permanent lesson in the value of owls as living mouse traps and as interesting members of the wildlife community which deserve protection.

Conservation is woven into the naturalist's discussions so subtly that the children are seldom aware of it, and they become earnest crusaders for the salvation of trees, birds, mammals, and wildflowers. They're not afraid to speak up, either. When a bill to put skunks on the unprotected list was passed by the New York State Legislature, northern Westchester children wrote impassioned letters to Governor Dewey. He vetoed it.

When swamplands bordering Westchester parkways were being cleared of dead wood, the children wrote indignant letters urging that the swamps be kept in their natural state as a wildlife habitat. Their pleas were heeded.

When the bounty on the bald eagle in Alaska drew letters from people all over the country, the children of northern Westchester added their protests to the thousands received by the government.

On the Bedford Village school grounds the children were faced with a tangible problem in soil conservation. The school possessed a slope denuded of topsoil, which was badly eroded. Nothing was done, however, until the principal realized that the members of the Bedford Audubon Society were not just "bird-watchers," but practical workers for all forms of nature and conservation. He turned the slope over to the class, and under Grierson's direction the students laid sod, grass roots, and straw. Eventually roots took hold, seeds fell, and plants grew. Today, the slope is holding its own, and the class has plans for a reforestation project.

The various school principals are delighted with the nature program. They feel that this is education in its highest form, where the children are able to come into close personal contact with the subject matter. In fact, they consider it part of a trend, and hope that some day, all subjects will be taught with the same sense of realism.

The children's response to this form of teaching was typically shown when the Bedford Hills school sent its entire sixth grade to Croton Point on the Hudson River last year, for a week's "on the spot" study of history, geography, civics, and nature.

The entire class was composed of Audubon nature course students and members of the Bedford Audubon Junior Clubs, and they took a lively interest in everything around them. They collected innumerable specimens. They studied geology, soil, and plant life first hand, saw the damage done by man, and learned some valuable lessons in conservation.

With no outside distractions, they also learned to draw on their own resources. They looked to nature for relaxation, entertainment, and inspiration, and discovered that tele-

vision, radio, and the movies are not essential to a happy life.

During the first year of the Audubon nature course, the Mount Kisco school allowed its sixth-graders, members of Grierson's class, to go on a picnic in nearby Ward-Poundridge Reservation. The youngsters proved themselves such serious-minded students of natural history that the school permitted six groups to take similar outings the following year. In their personal contacts, as well as in their classwork and public appearances, the children keep nature uppermost in their minds, and are no small factor in influencing the interest of their families. They militantly guard against forest fires. They plead for the salvation of wildflowers. "Pick only one; leave roots and budding shoots!" is their stern injunction. They urge trigger-happy hunters to "think before you shoot!" They participate in civic clean-up campaigns, help to plant trees and shrubs to attract birds, and put bird-feeders everywhere. Alert to highway mortality and injured animals, they have walked miles to recover them and to bring their specimens to Grierson.

They eagerly support the latest innovation of the Bedford Audubon Society—the Audubon Room in the Bedford Hills Community House. Every afternoon, groups of school children visit the room, to identify recently collected specimens, to pore over the exhibits, browse through the reference books, and talk with the attendant. They bring their cher-

ished exhibits to put on display, and are treated with as much consideration as older, more experienced collectors.

Some of the youngsters pursue their interest with greater intensity than others, and it is not unlikely that they may make some branch of natural history, or possibly conservation, their life's work.

One 10-year old Mount Kisco girl carries on a single-handed battle with any boy in her block who dares to shoot or throw stones at birds. Once a keen mineral student, this small lass has now appointed herself "guardian angel" of all local wildlife. She personally nurses ailing animals back to health and returns them to their native habitat. She feeds skunks by hand in her backyard, and lugs school pets home for the holidays. Sometimes, there are so many animals in her house that the bathtub has to be used as a hostelry.

Another youngster—a 12-year old Katonah boy—gets up at dawn to explore the countryside. He reports weekly to the Bedford Audubon Society on his findings, and some of them have been good. Endowed with an extraordinarily keen sense of observation, he is credited with sighting the first white-winged crossbills reported in Westchester County, when they made one of their rare visits to the area in February 1953. His devotion to ornithology has so aroused his family's interest that they have all taken up bird study.

A Bedford boy, an 11-year old

student in the Audubon nature class, found the first worm snake ever reported in Westchester County. He followed this up with the discovery of fairy shrimps, which are rarely seen in this area. So assiduously does he pursue his interest that he keeps his mother on tenterhooks with the steady stream of beetles, snakes, frogs, and other creatures that pass through the house. She thoroughly sympathizes with his pastime, however.

Last, there's the 18-year old North Salem boy, who this past year won a scholarship from the Bedford Audubon Society to the Audubon Camp of Maine. Too old to be in one of the regular Audubon nature classes in his school, he nevertheless kept in close touch with Grierson. Together with a group of older boys, he organized regular field trips and worked with the naturalist on special projects, among them a survey of the food supply for fish in a nearby reservoir. He definitely plans to make conservation his life work, specializing in the management of forest lands.

There are many other stories of these students. Investigation continues to uncover still more who show unbounded enthusiasm for nature and its protection. In the few years since the Bedford Audubon Society got the help of the children, the results are impressive enough to convince the organization that it is on the right track. If the children are properly educated, they will take care of the land.

★ ★ ★ NATURE IN THE NEWS ★ ★ ★

Reprinted from the New York Times, May 7, 1953.

Topics of the Times

The Day of the Gnatcatchers

Man accosted two young ladies in Central Park the other day. He said to them: "There's a pair of gnatcatchers over by the Schiller statue."

The two young ladies—and, indeed, many more—have a rule about when men accost them in Central Park. The rule is to look for binoculars. Binoculars are the outward symbol of the craft of bird-watching. The two young ladies always carry them, and presumably the rule works two ways, so that when the man (he was not carrying binoculars)

noticed theirs he felt qualified to accost them, particularly since his first words concerned the gnatcatchers.

Watching Without Glasses

He was a kindly, tweedy man, a typical male birder (craft argot for a bird-watcher), and so the two young ladies went to look for the gnatcatchers with him, and, indeed, there they were. Then he said, "There's a whip-poor-will asleep on a branch right over there."

Later the two young ladies learned that the watcher without binoculars is quite a famous one. His eyes are most unusual, and his list of species (the birders' trophy record) is long.

The Warblers Are Coming

... Central Park, when you come right down to it, is as good a place as any in New York State, and better than many, to look at birds, according to such authorities as the local Audubon Society. This is because, from high in the air, the Park is a green oasis, ostensibly a fine haven after a lot of rugged flying.

The warblers, for instance, are coming, and the warblers are especially cherished by birders, they are so pretty, so vari-colored. "They are a very brilliant family," one expert explains, "with a few drab members, such as the Tennessee Warbler." Making up for him, however,

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The tough, wary horned owl that has, somehow, survived man's persecution, cannot escape the laws of life. Scientists have discovered that the limits of its environment, and the owl's own kind, are a check on

THE "BIG BOSS" OF THE WOODS

By Paul L. Errington

IN MY more mature years, I have come to dislike having a wild creature referred to as stupid because its learning capacity is patently subhuman. Mentally gifted man need not use the word so freely, with at least a faint implication that something is wrong with owls, turtles, frogs, fishes, worms, and essentially the rest of the animal kingdom for not being as smart as he is.

The "smart" crow may be plenty stymied when up against something for which its own behavior patterns do not suffice. The red fox, that traditional embodiment of subhuman cleverness, may not have to go so far beyond its everyday experiences to act in ways that could be called stupid. For all of the rigidities in its behavior, our horned owl lives with a matter-of-fact practicality that may still be sufficient for it at most times; the species may still be rated as biologically successful over large regions of the world, even in some that are thickly settled by inimical man.



Great horned owl photographed by John H. Gerard.

Broadly, its behavior patterns must have been established millions of years ago. North American horned owl populations that are subject to human persecution may become exceedingly wary—slipping out of one side of a grove as a person approaches the opposite side or staying safe distances from firearms—or individual owls may pick out places where the hunting is good or make some other adjustments. It is with respect to modifying behavior in radical ways that the owls do not seem to have what it takes. When beset by a novel emergency, the horned owl is likely to meet it in the old, old way or not at all.

Within limits, the horned owl can take care of itself individually—that is, a well-situated, fully-grown bird usually can. Somewhere over its range, an individual may die of disease, from grappling a porcupine, or by the talons of a goshawk, a big falcon, or an eagle. I suspect that

one of these owls could get badly ripped up by tackling prey with the teeth, durability, and disposition of a mink, house cat, or raccoon. A bird having the horned owl's weight and capabilities of swift flight could have accidents breaking wings or impaling bodies on sharp points. The annual surpluses of horned owl young may find themselves involved in a great variety of troubles while wandering about the countryside. Any horned owl, young or old, secure-living or otherwise, may have to submit to daytime harassing by other birds—especially by the crows and jays that seem to enjoy pestering them, and by some of the hawks that may attack horned owls in fury. But, the horned owl's natural endowments are those of a most formidable bird of prey that can take punishment if it has to. It may not have the toughness of a snapping turtle, but the horned owl, too, is with us today after long millions of years

partly for the reason that it is tough.

Responsiveness of the parent owls to human intrusion varies from keeping out of sight to the most ferocious defense. An attack by a horned owl defending its young can be dangerous to a person who doesn't know what to expect. A few horned owl parents put on an injury-feigning act, similar to those of the innumerable smaller birds that so behave when an intruder comes too close to a nest or to helpless young. The most outstanding display that I ever saw came as the culmination of much hooting, beak-snapping, diving at my head, and miscellaneous frenzied antics in behalf of a fledgling that had jumped out of the nest at my approach without being quite able to keep on in level flight. This was one of the most amusing sights that I ever saw—that huge parent owl bouncing along on the forest floor with wings dragging! The significance of the injury-feigning was not that the owl tried to look invitingly helpless and delectable, nor tried to imitate anything, nor that injury-feigning must have useful purpose in the life of the species. A more logical explanation would be that the horned owl has the ancient behavior patterns of birds

rather generally and that a reaction to one of these ancient patterns was touched off by the stresses of the occasion.

The horned owl is not much of a nest builder and, in most places with which I am familiar, lays its eggs in tree cavities or in hawk or crow nests of previous years. A common procedure is for a pair of the owls to select, anywhere from fall to late winter, territorial headquarters in the vicinity of a strong nest of a red-tailed hawk wherein to lay their eggs in February. Other nesting sites are ledges or crevices in rocky bluffs. I have found horned owls nesting on the ground in western South Dakota, sheltered only by low, brushy vegetation. It is not surprising to learn of nesting sites in undisturbed man-made structures, in a tower or church steeple or isolated building. Squirrel nests may be used where better nesting sites are lacking, although they may be so flimsy that they fall apart with eggs or owlets in them.

Two or three eggs comprise a normal set for horned owls to lay in Wisconsin and Iowa. After a month of incubation, the owl chick is out of its shell, looking anything but sturdy against the setting of bliz-

zardly subzero weather that March so often brings. If the first nesting attempt fails definitely enough for the mother owl to recognize failure, a second clutch may be laid, perhaps with a single egg. As a rule, adult horned owls take good care of the young, their solicitude increasing as the owlets grow to free-flying stages.

The young usually leave the nest five or six weeks after hatching and are fed by the parent birds for about three months more, or into July and August. "Mooching" from the more tolerant parents may continue into fall, but, at last, the old birds have all they want of their season's young, and there may be tree-to-tree flying to get away from them, to the accompaniment of beak-snapping by the parents, if not punishment of the young that hurts. And the cries of the young—denoting begging, hunger, or just plain habit or inclination to call—may be heard in the daytime as well as at night. This means that one or two or three more juvenile horned owls may be "weaned" and on their own, not necessarily enjoying their full independence and the catching of grasshoppers and garter snakes, but learning to live somehow. Where they go and what they do from then on

Parent horned owl bringing a gopher to its young. Photograph by Lewis W. Walker.



is up to them, within the restrictions imposed by other owls and by the rest of the world.

There are in "territorial" forms of life, including the horned owl, certain intolerances that operate as natural population controls. Top-notch environment harbors a maximum of about so many "property-conscious" individuals at a given time—the number so tolerated by the species in question—but these individuals typically get along pretty well and serve as a more or less secure breeding nucleus. This is true to a lesser extent in the less choice environment, but, in these, more variation in populations and breeding success may be noted. The annual overflow, or surplus production, from the functional breeding territories of an area tends to be frittered away in time if no additional environment can accommodate it.

For a species such as the horned owl, which can live 20 to 30 years, relatively few of the young raised during a breeding season might really be needed as replacements. Traps and guns account for a large share of the horned owl surpluses in northern United States, but the assumption should not be made that tremendously increased horned owl populations would result if human intervention would cease.

Some of my central Iowa study areas have had remarkably stable horned owl populations during the more than two decades that I have worked on them. Their "saturation densities" for the breeding months have been approximately a pair of adults per two square miles, together with similar numbers of nesting red-tailed hawks. Horned owls are shot by most farmers and hunters having opportunities, but the intensity of human persecution varies from place to place and from year to year. The wiser owls are adept at preventing themselves from being shot, and, if a member of a pair is killed, the survivor doesn't seem to have much difficulty in getting a new mate before so very long.

Much drifting about of juvenile owls goes on in fall and early winter, which drifting may temporarily increase the local horned owl populations above the late winter average of one per mile. On quiet November evenings, a listener may hear their hooting from several directions

at once, yet in the process of challenging and counter-challenging, age-sanctioned rights ultimately prevail, and the woods are left to the owls that "own" them, to those staying to breed.

The poorer grades of horned owl environment may be those where any owl may be visible for long distances in straggling timber, those where farm groves may be dangerously close to people who do not want horned owls near, or where otherwise a place may not offer all that horned owls need for continued existence. They may either offer a precarious living for any of the birds or be perfectly suitable except for reproduction.

An example of the second type of marginability is furnished by a small wooded island in a marsh. The island has been occupied for at least the past nine years by a pair of horned owls (possibly not always by the same owls) having access to an abundance of food. Almost every year, the island owls were known to have made a nesting attempt, which regularly failed for the apparent reason that owls had nothing better than squirrels' nests in which to lay their eggs. At the same time, the continued presence of horned owls on such a small island could well be the explanation for red-tailed hawks or crows not building their more substantial nests there.

Thus we see how even a species we may think of as a "big boss" among wild creatures, even when individuals live securely in food-rich places, cannot expand its effective breeding range beyond what the environment permits.

Food may or may not be a limiting factor in the horned owl's life. I can understand how its food resources could be critically short in a snow-covered wilderness during a "cyclic low" of snowshoe hares. The owls can starve or engage in mass movements away from foodless regions. I can readily understand also how badly eroded farmlands, deserts, etc., might not have sufficient food to support many horned owls. Conversely, situations may be very different in rich agricultural country, where the rodents, rabbits, large insects, and other wildlife often may be far more than plentiful enough to support all the predators that the predators themselves may tolerate.

From the studies of food habits of horned owls and eagle owls that have been conducted in North America and Europe, respectively, we may conclude that the owls show little of what could be termed food preferences as long as their prey is neither too small nor too large. The smaller prey such as late summer grasshoppers and crickets are taken both by the juveniles that cannot catch much else and by old birds responding to seasonal availability of a food supply. May beetles, carrion beetles, and crayfishes may frequently be fed upon, and occasionally an owl pellet (casting) may be made up of heads and skins of cutworms. Eight of one lot of 13 horned owl pellets from a dry creek in western South Dakota contained remains totaling 67 individuals of the wolf spider, *Lycosa*.

Cold-blooded vertebrates taken are usually garter snakes, frogs, and tiger salamanders, the latter of which may overrun some areas for brief periods in spring and fall. Fishes may be preyed upon when circumstances make them available to owls.

Staple prey consists of the commoner and most available mammals and birds—notably cottontails and snowshoe hares, field-living barn rats, mice of many species, shrews, almost anything within manageable size limits that happens to be conspicuous and easy to lay claws on. Poorly-housed domestic chickens are easy prey for horned owls. At times, the owls may depend heavily upon pocket gophers and moles, flickers, pheasants, quail, grouse, grebes, rails, coots, ducks, weasels, domestic pigeons, small owls, muskrats, flying squirrels, blackbirds, sparrows, and shorebirds.

The one dietary rule of the horned owl that holds throughout regularities and irregularities alike, is: *prey is taken much in order of its availability in places where horned owls are in the habit of hunting.* Differences in availability of prey to predators may be difficult to unravel in analyses of complicated predator-prey relationships, but in the best-understood cases that have been studied for mammals and birds, they boil down mainly to differences in numbers of prey animals that are having trouble with their own kinds or with their environments.

Population overflows from good environment into poor. Parts of ani-

mal populations beset by friction with animal neighbors, parts of populations finding themselves in a bad way because of fires, droughts, floods, deep snows, overgrazing by livestock, destruction of food or cover by man, and an endless array of other big or little crises — these exemplify the things that increase availability of prey for the horned owls. On the other hand, a quail population wintering comfortably may suffer little or no predation from horned owls hunting over it every night, or horned owls may hunt for months next to a lush cattail marsh having thousands of thriving muskrats without catching any of them. Even the cottontail, which at population levels commonly found in the northern states is as consistently vulnerable to horned owl predation as any native species that I could mention, may live with comparative security from the owls if it has the advantage of strong environment that is not too full of its own kind. Overproduced or insecure wildlife tends to get "shaken down to fit" the environment somehow, whether through the agency of horned owl predation or something else.

Man may well protect his economic or other interests from the predatory activities of horned owls, but this need not require killing of the owls if man himself only uses better headwork, such as keeping chickens cooped up at night—which is the recommended practice in poultry management, anyway.

The studies of predator-prey relationships that have long been in progress in our north-central region indicate that the public there becomes far too easily excited about the harm that the horned owl does or is believed to do. Partly, this is due to misconceptions not only as to what the owl does in its hunting and feeding but also as to what kind of bird it is and how it lives.

An enlightened society no longer regards owls as the creatures of evil that the ancients did, to be identified with malignant spirits, harbingers of death, and so on, but many unrealistic views have carried over into modern life. Reputable bird students have been among those who have outdone themselves in applying epithets to the horned owl, and we read of voraciousness, bloodthirstiness, blazing eyes, untamable sav-

agery, and other attributes that are considered unattractive in wild animals. These words may be applied to man, who coins such terms, but not to wild animals, acting under the compulsions of their natural ways of life.

My suggestion to people who can enjoy outdoor values is that they consider the horned owl as neither a feathered friend nor as a feathered fiend, but simply as a very distinctive and very interesting part of our outdoor heritage. As a wild species, it gives no allegiance to man nor owes him any, which is true of all wild species so long as they are wild — and which is as it should be. So far as I am concerned, the horned owl, by living its own life in its own way, has repaid me for any competition it has given me for "my" rabbits and other game (as a veteran hunter, I could claim losses as logically as anyone), for its depredations upon my poultry (our lakeside "old home farm" in South Dakota had perhaps "average" losses when I lived there),

and for a fairly impressive collection of talon scars that I carry on my person. I would say that, even from a man-centered point of view, the horned owl belongs in our natural out-of-doors wherever its activities are not too much in conflict with human interests and that persecuting it at random merely because killing it may be legal or customary to do so, is a mistake.

Leaving out the witchcraft and man's favorite label of "destructiveness," we have in the horned owl a superb predatory type, one of glorious wildness in a time when wildness becomes more and more priceless with each new encroachment of human populations and technology on what wildness we have left.

The hooting of the horned owl in a winter evening is reassurance to me that real wildness still exists, and I am thankful to live where I can hear it. Far from being a dismal or menacing sound, it has for me a freedom and beauty to make the air sing.

NATURE IN THE NEWS

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are the Blackburnian W. (bright orange), the Cerulean W. (beautiful blues), the Magnolia W. and other W.'s which are yellow. And then there is the Black-throated Green W. A couple of dozen species, in fact.

There are a lot of other excellent birds, too, pausing in transit in the Park. . . . There are thrushes, and there are a variety of sparrows, including the White-throated S. and the Fox S. There are vireos going through and scarlet tanagers—"Always a thrill," says our man. Not to mention others.

. . . The Linnacan Society, with its hundreds of members, is active from dawn to dusk. (Some birders can compile lists of sixty to seventy species observed in the Park on a good day.) Other groups also are expanding. One must not call these specialists "birdlovers," one learns. "Love," runs the aphorism, "is a reciprocal emotion."

The mild autumn last year persuaded many birds that normally go south to stay in this vicinity. There was plenty of food. The bluebirds were plentiful and so were the towhees. Numerous shore birds came to the Park's lakes. . . . The sandpipers have been visiting, too.

The Binocular Brigade

Let no one be astonished, therefore, these next few days and weeks to find a good deal of congestion in the more

gladey sections of Central Park. The Rambles will be about as crowded as a BB Independent Subway local. Schiller's statue will have many visitors. So will the lakes. Young and old, male and female, there will be a crush of people. All with binoculars, of course.

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Reprinted from the Miami Herald (Florida)

BIRDS CAN DRAW GUNLESS VISITORS

Consider birds as a tourist attraction. Some people like to shoot them. Others prefer just looking at them.

Off hand, you might think the hunters would outnumber the lookers. The opposite conclusion is indicated by a recent report from Clewiston, on the south shore of Lake Okeechobee.

Four kinds of rare birds have set up housekeeping there. The cattle egret haunts the hoof-prints of cows, picking up insects in the grass or water. The Everglade kite wings low over saw-grass in search of fresh-water snails, its sole food. Smooth-billed anis nest in colonies. Roseate spoonbills can be seen at times.

Two amateur ornithologists at Clewiston, Mr. and Mrs. Jack Merritt, reported recently that more than 500 persons visited their city last year for the express purpose of looking at these birds.

That's a goodly number of visitors from afar—tourists who wouldn't point a gun at a bird for anything.



Birding on

More than 275 species of birds have been seen on a little group of Canadian islands off the coast of Maine.



"We never did catch up with a winter wren." Photograph by Allan D. Cruickshank.

By Robert S. Lemmon

BY THE time its northern headlands finally showed through the horizon haze off the vessel's starboard bow we were feeling almost doubtful that Grand Manan Island existed. Reliable reports had placed it at the mouth of the Bay of Fundy and some six miles seaward from the town of Eastport, Maine, but for nearly two hours we had been out of sight of land, and corkscrewing over heavy swells that rolled in full-force from the open Atlantic. Herring gulls trailed patiently above our wake, and twice we had glimpsed Wilson's petrels fluttering through the fog wreaths that scudded close to the waves before a chilling south-east wind. All about was the illusion of being far out at sea. Then, magically, those forbidding, spruce-topped heights loomed along the

"We resumed our northward trek toward Swallowtail Light." Photograph courtesy of New Brunswick Travel Bureau.



Grand Manan*

skyline, and our minds slipped back into the realities of birders nearing their goal.

A car was waiting for us on the pier in a sheltered cove at North Head, and soon we were rolling along the smooth road that skirts the east shore of Grand Manan all the way to Southwest Head. This is the low side where practically all of the island's 2,000 or more inhabitants live and earn a livelihood by fishing, their only industry. It is an unspoiled, friendly region of open grasslands, tidal meadows, and occasional hamlets so tiny that one marks them as villages only because of the shortened distances between their neat little houses.

It was a late afternoon toward the end of July 1953, and birds seemed everywhere in the cool, refreshing sunshine. Savannah sparrows fairly swarmed along the roadsides, and the sky was alive with barn, bank, and cliff swallows, each species showing a puzzling preference for a special area. Once, where a distant sea view opened, we caught a glimpse of a huge circular fish weir festooned with hundreds of perching gulls.

Early the next morning, equipped with an excellent rented car and many local suggestions from the proprietor of our lodgings, we set out to explore the 15-mile length and 6-mile width of the island. By this time we knew that the east coast road is practically the only comfortable one except for a couple of connecting loops that start toward the higher, virtually uninhabited interior and then turn back as though they were afraid of getting lost. And within half an hour we came upon a clue to the strange separations of the three swallow species which had been so noticeable on the previous afternoon.

We had turned into a short and sketchy side road that headed toward the sea, lurched and bumped along it through a bit of wind-bat-

Continued on Page 133

*Grand Manan, an island 15 miles long and six miles wide, off the coast of Maine, is a part of the Province of New Brunswick, Dominion of Canada. Trips there must be made through Canada since the boat service from Eastport, Maine to Grand Manan has been discontinued. It is believed that Vikings were the first white men to discover Grand Manan. Champlain reports being shipwrecked off the island about the year 1604.—THE EDITORS.



"The brown-capped chickadee nests on the island." Photograph by Eliot Porter.



"Through a bit of spruce forest, a goshawk winged purposefully." Photograph by Alfred M. Bailey.



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A Cooperative Study of Spring Migration

[*Editors' Note: If you have any questions to ask about this cooperative migration project write to Mr. John V. Dennis, Route 1, Box 376, Leesburg, Virginia.*]

By John V. Dennis

DO YOU keep the arrival dates of birds in your area each spring? If you do, or if you would like to begin, you can make a very substantial contribution to the study of bird migration. By supplying arrival dates for a selected number of species you will be joining hundreds of others in Canada and the United States who are already taking part in one of the most ambitious cooperative bird studies ever attempted.

The study, in its present form, has been operating only one year, but studying migration through the arrival dates from many localities is an old one. As early as 1884, Wells W. Cooke began soliciting information on arrival dates from people in the Mississippi Valley. The project was a success and out of it came much important information as to the distance traveled each day by different species, the effects of temperature and weather on their migration, and the seasonal rate of advance of birds toward their nesting grounds.

In recent years, with new facts available and new theories in the making, it has seemed advisable to gather arrival dates again and on a much wider scale than ever before.

A modest program begun in 1951 by members of the Wisconsin Society for Ornithology set as its goal the mapping of arrival dates in Wisconsin for the white-throated sparrow. The prime pur-

pose of this study was to see what effect, if any, weather had upon the northward movement of a single, rather common species. Data acquired that year pointed to the fact that white-throats arrive *almost simultaneously in all parts of the state* in series of waves about a week apart. Having made a fruitful beginning, Society members were anxious to get basic facts on white-throat migration, and to compare them with similar information about other migrants. This called for a much wider program.

By the spring of 1952 a good start had been made in reaching new cooperators in Canada and in other states besides Wisconsin. Birds added to the study were the mourning dove, Baltimore oriole, and several kinds of geese. Cooperators were asked to list the arrival date, date of peak numbers, departure dates, and, if applicable, one or two other significant dates. After the results were in and the various dates plotted on maps, one striking feature was noted, the species under study seemed to make relatively long flights after periods of little migrational activity. These hops of several hundred miles were in sharp contrast to the methodical forward movement of around 25 to 70 miles a day suggested by Cooke. Not enough reports were available, however, to justify any conclusions regarding possible relationships between weather and the flights indicated. It would take another year and a vastly broadened program before

even a beginning could be made in answering various of the questions which had been raised.

As one of the cooperators in the 1952 study, I proposed a series of changes. I felt that more of the ever-increasing army of bird-watchers could be reached if the amount of detailed information requested was reduced, and if a substantial number of those species which frequent homes and gardens could be included. The leader of the Wisconsin project, Mr. James H. Zimmerman, readily acknowledging the need for wide popular support, greeted these proposals favorably. A list of species, including both migrants from the tropics and migrants which winter within our borders, was drawn up. Every effort was made to include species which are common about inhabited areas and which are easy to recognize. Twenty-eight species seemed to meet our qualifications closely enough to be included. Only the date the species was first seen was to be requested.

Now nothing remained but to get our project before the bird-watchers, a sizable task inasmuch as we had selected well over half a continent for our operations. Our goal was nothing less than 60 cooperators in each state and province east of the Rockies.

Fortunately fate sometimes favors those with extravagant ideas. Mr. Chandler S. Robbins of the Bird Distribution Section of the U. S. Fish and Wildlife Service was favorably impressed by our plan and decided to give it his support. Within a short time official approval was given and the resources of the Bird Distribution Section at the Patuxent Wildlife Research Refuge at Laurel, Maryland were made available for putting the project into operation. With the enthusiastic cooperation of Mr. Robbins there was little doubt but that the project would succeed. For the U. S. Fish and Wildlife Service this would mean a new system of following the migration of several game species; for private students of migration (to whom on request the files at Patuxent are open) it would mean new opportunities for studying the migration of a particular species or underlying factors influencing migration as a whole.

Unfortunately, by the time everything was in readiness to begin the 1953 study, migrating birds were already under way and it seemed late to be asking for arrival dates. But remembering that many bird-watchers are in the habit of keeping arrival dates, we decided to reach as many of them as possible through ornithological publications, bird clubs, and correspondence. We already had a network of cooperators in the Midwest, and through the *Audubon Field Notes* we expected to reach hundreds more throughout the continent—migration observers who send periodic

reports to *Audubon Field Notes* editors.

The results of our first almost continent-wide study were highly gratifying. Thousands of arrival dates were recorded on the IBM punch card machines at Patuxent. Through the summer and into the fall and winter the reports continued to come in.

While the vast majority of the material now in the files awaits analysis, arrival dates for one species—the chimney swift—have been mapped. It is to be recalled that, until a few years ago, the winter home of the chimney swift was unknown. Through banding, it was found to be in the jungles of Peru. Other facts to be remembered are that the chimney swift is a daytime migrant and that everyone agrees that it flies around and not across the Gulf of Mexico. Easy to recognize, very conspicuous, and widely distributed, it would be hard to find a more suitable subject for our study than this inhabitant of chimneys and hollow trees.

Bearing in mind that there are still many wide gaps between observers, particularly in the South and the Great Plains region, here is what some 296 arrival dates, scattered throughout the

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chimney swift's range east of the Rockies, revealed:

Arrival dates in southern states indicate that the region was rapidly occupied in late March and early April by northbound chimney swifts. The peak of the influx lay somewhere between March 21, when chimney swifts were first recorded at San Benito in southern Texas, and April 8 when they first arrived in southern Illinois. We do not have enough dates to give us a day-to-day picture of this northward advance, but it seems to have occurred rapidly and with a major movement around April 4 and 5. Then, for some reason, the momentum of the northward flight subsided. Several weeks elapsed before chimney swifts began reaching northern Illinois, Ohio, Pennsylvania, and New Jersey. To be sure, a few mid-April dates were recorded in these states, but most arrival dates were in the period May 4-6. The May 4-6 influx was reflected in returns on these dates all the way from Wisconsin to Ontario, New Hampshire, Vermont, and southern Quebec.

What does this information suggest?

First of all, many arrival dates in the same period from widely scattered localities suggest a major movement, not a vanguard. Thus the May 4-6 period, which is so well defined in regions such as the upper Connecticut River Valley, southern Ontario, eastern Michigan, and central Wisconsin, must mark a period of pronounced migration over a vast area. Following, as it does, a period when arrival dates suggest little activity, we see again a picture of migration by long forward spurts. With the chimney swift, which is a rapid flier, it is conceivable that it makes non-stop flights of 200 miles or more.

But why the apparent period of delay between two pronounced forward movements?

A plausible explanation can be found in reviewing weather maps for the period. We find that during most of April, 1953 and on into May weather conditions were highly unstable. One cold front after another penetrated the northern states only to lose momentum in face of the warm air masses from the south. This meeting of air masses of different temperature and moisture content resulted in violent winds, precipitation and generally unruly weather. As a rule, cold fronts at this season pass on out to sea and bring good weather in their wake, but the stationary fronts and areas of low pressure, which characterized the period in question, resulted in one rain-storm after another.

We do not know if the unusual weather conditions in the spring of 1953 accounted for the peculiar pattern of migration shown by the chimney swift, but, conceivably, bad weather in the

northern states delayed migration in late April and the first few days of May. With future years for comparison and the assistance of many more observers we can discover how various weather conditions influence migration.

The 1954 results should be of great interest. For the first time we shall be able to compare arrival dates for the entire eastern half of the continent over two seasons. At the suggestion of Mr. Gilbert S. Raynor, of the Brookhaven National Laboratory on Long Island, who is studying the effects of weather on migration of birds, and taking a very active part in our program, we are adding another nine species. These will give us additional material for study and comparison. The study is expected to continue until the end of 1958. By then we hope to have a suitable answer to our "number one question" — how does weather influence bird migration?

Our success or failure in answering this question and many others lies with those of you who observe birds, briefly at least, every day during the spring months. The common everyday species which, for the most part, make up our list will be the ones you can't miss as you putter in your garden or walk a few blocks to mail a letter or catch a bus.

Here is the list of 37 species. Watch for these birds this spring, and every spring, until our project is completed:

- Canada goose
- Marsh hawk
- Killdeer
- Wilson's snipe
- Mourning dove
- Common nighthawk
- Chimney swift
- Ruby-throated hummingbird
- Yellow-shafted flicker
- Eastern kingbird
- Crested flycatcher
- Eastern phoebe
- Eastern wood pewee
- Barn swallow
- Purple martin
- Common crow
- House wren
- Catbird
- Brown thrasher
- Wood thrush
- Eastern bluebird
- Red-eyed vireo
- Black-and-white warbler
- Yellow warbler
- Myrtle warbler
- Oven-bird
- American redstart
- Red-winged blackbird
- Baltimore oriole
- Scarlet tanager
- Rose-breasted grosbeak
- Indigo bunting
- American goldfinch
- Slate-colored junco
- Chipping sparrow

White-crowned sparrow
White-throated sparrow

Each spring when you have completed your list of arrival dates, send them by postcard or letter, either to your *Audubon Field Notes* editor, or to Mr. Chandler S. Robbins, Patuxent Wildlife Research Refuge, Laurel, Maryland. Be sure to include your name and address, and the locality or localities (including

county) in which the arrivals were recorded. For species on the list which winter in your area, record spring arrival dates only when you feel reasonably sure that newcomers have entered your territory from farther south. For the Canada goose and white-throated sparrow, keep dates of all important flights. And, if you have had a good look at them, specify whether the first bluebirds you see are males or females.

BIRDING ON GRAND MANAN—Continued from Page 129

tered spruce forest above which a goshawk winged purposefully, and then we had slithered down a stony hill to an open flat that swept away to the ocean's edge. Bank swallows had been much in evidence all along the way, and now we could see a swarm of them circling low above a blunted point where land and water met. There, after scrambling along a foreshore exposed by the falling tide, we found their prosperous nesting colony, with many well-grown young still in the dozens of burrows that pitted the upper portion of a 10-foot bank of mingled sand, clay, and gravel.

It seemed strange to come upon this smallest of North American swallows, so often associated with peaceful river banks and abandoned sand pits, nesting unconcernedly in this harsh, windy headland against which the North Atlantic's treacherous seas thunder so constantly and with such crushing power. Yet here, obviously, were both the source and the reason for the dominance of early-hatched immatures as well as adults of this species along the main road less than a half-mile away. A few weeks later, with all of the young on the wing, the colony's whole population would probably have been

much more widely distributed.

Similarly, as we resumed our northward trek toward Swallowtail Light, the concentrations of barn swallows around the scattered villages presumably stemmed from the abundance of nesting spots provided there by sheds and other outbuildings. And finally, on the towering promontory crowned by the Light, the remaining section of our three-part puzzle was solved by the scores of cliff swallows which found those mighty rock faces ideal for family-raising and life in general.

It was near the lighthouse, too, that we watched the cliff swallows, trailed by their oldest but still food-begging offspring, as they hawked above the stunted trees on the summits of the adjacent hills. Most of the old birds paid scant attention to the youngster's throaty appeals. But now and then a parent would double back, a suppliant would dart to meet it and, while both birds hovered momentarily bill-to-bill, an insect tidbit would be transferred in a delightful demonstration of dainty aerial refueling.

The interior of the island, a portion of which we ultimately traversed by way of an unimproved road that reminded us of the Air Forces

Continued on Page 143



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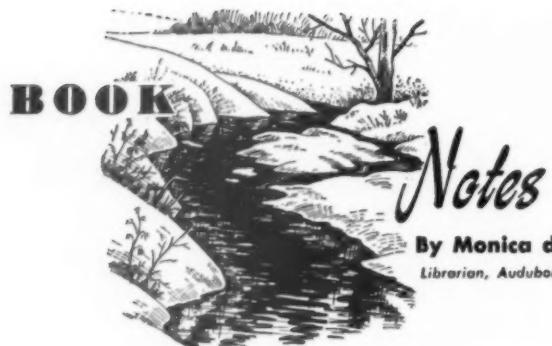
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When François Bourlière's book, "Vie et Mœurs des Mammifères," was published in Paris in 1951 I regretted exceedingly that I had virtually no knowledge of the French language. The intriguing illustrations left no doubt in my mind that this was the book I had always hoped to see but could not find; not a guide to mammals, but a book about their natural history from a comparative viewpoint. It was with great rejoicing that I learned from Dr. Bourlière when we were on a field trip to Spain

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"The Natural History of Mammals" is a must for every natural history bookshelf and every working library. In fact it is so absorbing that it will find its place on many bedside tables.

— Roger Tory Peterson

AVIAN PHYSIOLOGY

By Paul D. Sturkie, Comstock Publishing Company, Ithaca, New York, 1954. 9½ x 6½ in., 423 pp. Illustrated. Indexed. \$6.00.

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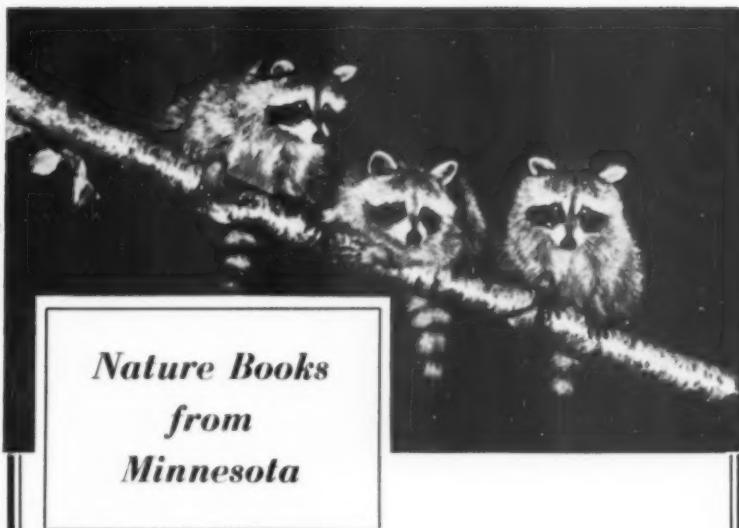
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technical terms. Its main feature for the layman is the excellent list of references at the end of each chapter. As its title indicates, it is a study of the functions of the organs, tissues, cells, etc., of birds. The subjects covered include, among others, blood, circulation, respiration, metabolism, digestion, senses, and reproduction.

**SEA-BIRDS: AN INTRODUCTION TO THE
NATURAL HISTORY OF THE SEA-BIRDS
OF THE NORTH ATLANTIC**

By James Fisher and R. M. Lockley, Houghton Mifflin Co., Boston, Mass., 1954. 9 x 6 in., 320 pp. Illustrated. Indexed. \$4.00.

Perhaps no birds are as puzzling as the pelagic species which spend most of their lives on the ocean. Encountered many days out at sea, some of them migrating from pole to pole, continent to continent, nesting on islands only accessible to the courageous, they have glamor and mystery. Where do they go? How do they navigate? What controls their numbers? Why are they solitary in the wide open spaces and unbelievably gregarious in the mating season, during which they are monogamous? Indeed many questions remain unanswered. However, the two authors of this book have spent most of their lives doing research on sea birds, exploring remote parts of the Atlantic coasts and islands. Thanks to their observations the world population, distribution, and life histories of many species are known. Because of their widespread, cosmopolitan habits, sea birds on the American and European sides of the Atlantic are very similar and they are often common to both. Photographs, some of which are in color, black-and-white drawings, charts, and distribution maps illustrate a most interesting and readable text.

**UNSEEN LIFE OF NEW YORK
AS A NATURALIST SEES IT**

By William Beebe, Duell, Sloan & Pearce, New York; Little, Brown, Boston, 1953. 8 1/4 x 6 in., 163 pp. Illustrated. \$4.00.

It is a common belief that the country alone affords opportunities for the naturalist. New Yorkers are proud of their town but are generally convinced that the only zoological specimens to be encountered are dogs, cats, occasionally the distressing sight of a cockroach or a rat, and the mink and other furs gracing shop windows or fortunate ladies' shoulders. Indeed, they know that some bird-gazers drift into the city parks, but by and large the nearest they get to "animal watching" is when the circus parades incongruously up Broadway. If they only knew! A few months ago this Society published an *Audubon Nature*

Bulletin (Series 22, #22), "City Nature," in which Dorothy Treat demonstrated that nobody interested in the subject could take a step on a sidewalk without a natural history encyclopedia to "look things up." Now Mr. Beebe in an interesting and entertaining book explores New York and its immediate vicinity and tells its citizens to open their eyes. For there is much to see for anyone who is willing to look. Most of the creatures mentioned go unnoticed because they are too small, or too clear or too dark, or too familiar. Some also are too old, because New York had a fine prehistoric zoo complete with *Archopteryx*, Manhattan Grubbers, and mammoths. More recently, it was possible to come upon a hairy tapir, or run from a saber-toothed tiger. Nowadays it seems inconceivable that a ground sloth could have slept peacefully on the site of Times Square. But there are still many strange happenings and fascinating zoological finds for the curious.

SOCIAL FEEDING BEHAVIOR OF BIRDS

By Austin L. Rand, Chicago Natural History Museum (*Fieldiana: Zoology*, Vol. 36 #1), March 10, 1954. 9 1/4 x 6 1/4 in., 71 pp. Paper, \$1.00.

Birds have an astonishing ability to seize opportunities of securing food. Many readers of *Audubon Magazine*

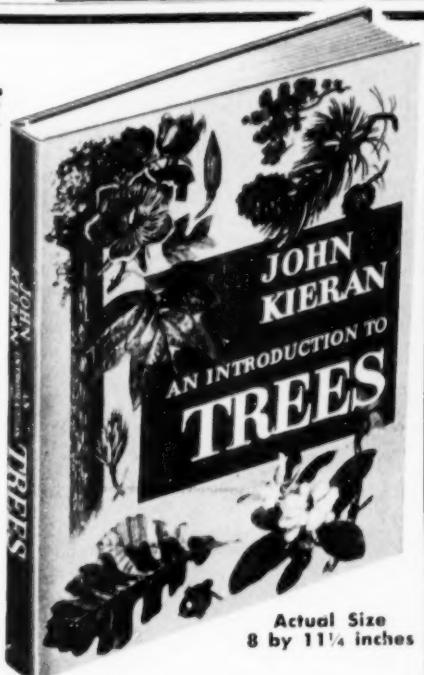
know by experience how quickly songbirds are attracted to a feeder, or at least are familiar with the sight of gulls swarming over refuse near ships and in harbors. Other maneuvers seem less spontaneous: flocks of herons or storks lined up in formation, walking systematically across a whole field, returning in similar fashion, beating the ground all the way in a drive to flush insects and small rodents; cormorants and white pelicans forming a closed line "net" over a school of fish; two or more birds harassing another to make it drop its prey or kill it through multiple attacks. This very readable paper gives examples of feeding habits that involve cooperation between birds, between birds and other animals, and between

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birds and man. It is particularly interesting because the author examines, compares and discusses behavior patterns and shows how they may have originated out of general tendencies. Whether or not some incidents in the lives of birds are the result of chance, memory or reasoning, or a combination of all these, is still a matter of speculation. Scientists and cage-bird owners still disagree sharply. The former, however, are beginning to be interested in avian psychology, even attributing emotions to creatures which had been considered as automata; while the latter will assure you that parakeets are capable of anything! Wherever the truth lies, this booklet has taken a notable step towards it. And some day we may know the answer to the question of how tits got started opening milk bottles all over Europe—a subject unfortunately outside of Mr. Rand's study.

BIRD-RINGING. THE ART OF BIRD STUDY BY INDIVIDUAL MARKING

By R. M. Lockley and Rosemary Russell, Crosby Lockwood, London, 1953. 7½ x 5 in., 119 pp. Illustrated. Indexed. 9/6d (about \$1.50)

This little book will be most helpful to bird-banders. Starting with an outline of the historical background and the importance of banding for research purposes, it gives detailed information on the techniques of handling birds and describes and illustrates the various types of traps and nets by which birds

may be caught. There are chapters on keeping records, equipment, and plan for bird study. Both authors are experienced bird-banders; Mr. Lockley, well-known to readers of *Audubon Magazine* as the author of "I Know an Island" and other books, has "ringed" over 20,000 birds on Skokholm in England. Miss Russell is the former executive secretary of the New Jersey Audubon Society.

AMERICAN SEASHELLS

By R. Tucker Abbott, with illustrations by Frederic M. Bayer, D. Van Nostrand Company, New York, 1954. 10½ x 7½ in., 541 pp. \$12.50.

This latest addition to the New Illustrated Naturalist Series is indeed a fine publication. Written by the Associate Curator of the Division of Mollusks of the Smithsonian Institution, it covers some 1,500 shallow water varieties of both the Atlantic and Pacific shores. How do mollusks grow and breed? What do they eat? How are their shell-patterns formed? The answers to these questions and many others, concerning both their life histories and how to collect them, can be found in the first six chapters. The later chapters give scientific and popular names (completed by good indexes), distribution, size, description, and relative abundance. There are drawings and photographs in black-and-white, and the beautiful colored plates should give even the casual reader the urge to go to the seashore and start collecting.

CAMPING IN OUR NATIONAL PARKS

Continued from Page 108

stone and Yosemite. In fact, if there was one thing that we would have passed up if we could, it was the bears wandering around the camp every night. It took some of the joy out of camping when we had to spend so much time properly suspending our food in trees to protect it—and us—from marauding bears. We sincerely wish the park service would truly enforce their regulations prohibiting the feeding of animals. It not only would increase the enjoyment of camping but would be infinitely better for the bears themselves.

In addition to the personalized service we received from the park naturalists, we used the regular naturalist service facilities such as nature trails, conducted hikes or motor trips, museums, and reading rooms. These services make it almost impossible for any amateur naturalist

not to see and learn all he desires. The park nature-interpretive programs are doing a tremendous, difficult job, and doing it in an admirable fashion.

This was our first family camping trip to the Far West, but it won't be the last. We are already planning our next trip and, profiting by our past experiences, will modify our methods a little. Rather than trying to see so much in a short time, we will concentrate on one area and cover it well.

We know now that camping is the answer to our vacation problems. We see more of the outdoors that way, because we live in it. We can do more with our outdoor hobbies because we live close to the source of our interests. And because camping is so much less expensive, we can do anything we want, within the limits of car travel and available time. Camping is fun and it's easy. Try it for better birding.

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Children's Books

By Dorothy Edwards Shuttlesworth



A SOLDIER newly returned home after long months as a prisoner of war in Korea was interviewed on his thoughts and feelings about life. In part he said, "Everything I see and do now is entertainment to me—just like an ordinary dandelion. I can look at a dandelion for a long time, and that is entertainment."

There is no surprise about such an attitude—as understandable as it would be in someone to whom sight has been restored after a period of blindness. The returned soldier possibly chose the dandelion at random as the flower to make his point; he might have mentioned instead a daisy or tulip. But the dandelion was an excellent choice, for it so perfectly illustrates an all too common pattern people follow in regard to the wonders of nature. The young child discovering this golden flower and finding no objections to its being picked, is enthralled. He brings a few home with all the delight we might feel over exquisite roses.

Fortunate is the person who can grow to adulthood retaining some of the wonder and appreciation for dandelions that he first felt as a child. No one can say that appreciation is developed primarily through books. On the other hand, understanding sharpens appreciation and when children are given, through reading, an insight into the whys and hows of natural phenomena, they are less likely to ignore the "commonplace" wonders of the world. Here are some excellent publications of recent date which are especially worth while in this respect.



PREHISTORIC WORLD, Stories of Animal Life in Past Ages

By Carroll Lane Fenton, *The John Day Company, New York, 1954. 8 1/4 x 5 1/2 in., 126 pp. Illustrated by the author.*
\$2.75.

Since Dr. Fenton began collecting and studying fossils when he was 14, he is highly qualified to write about them for young people. In this, his newest book, he does so with delightful imagination, making the prehistoric world really come alive. Dinosaurs are among the star performers, but the story begins ages before they appeared. The reader is invited to don an imaginary diving helmet and go down into ancient seas in search of trilobites, those three-lobed creatures which date back a half-billion or more years. He sees develop (some millions of years later) fish, then amphibians, then reptiles. After the dinosaurs pass from the scene, this exploration of the past goes on to the early mammals and up to the mighty saber-toothed "cats" and the mammoths. Most intriguing of all to many children are the reports of "first" horses, "first" camels, and other early ancestors of animals we know today. While Dr. Fenton writes carefully

and with scientific accuracy, his touch is light. "Prehistoric World" is addressed especially to nine-year-olds and upward, but can be enjoyed at a younger age by children who already know something about fossils.

NOT ONLY FOR DUCKS. The Story of Rain

By Glen O. Blough, *Whittlesey House, New York, 1954. 10 1/4 x 7 1/8 in., 48 pp. Pictures by Jeanne Bendick. \$2.25.*

As one glances through this attractive book, it appears to be pure "story" with plenty of action involving a young boy and animals. However, it involves far more. As the story unfolds, young readers learn of the various ways in which rain is necessary to life on our earth. They see through the eyes of Mike McBlossom—a boy who has a great liking for looking—how water, or lack of it, affects plants and animals. And they find a most simple and understandable explanation of how rain is caused. Not only is it good reading, but it should help reconcile boys and girls to rainy days when they want to swim or play ball. The colorful illustrations are delightful.

LET'S TRY

By Samuel A. Thorn and Jeanne Brouillette, Beckley-Cardy Company, Chicago, Illinois, 1953. 8½ x 6½ in., 72 pp. Illustrated by Fiore Mastri and Maudi Wiebe. \$1.52.

Anyone who is prone to criticize present-day education methods should be introduced to this book. It is one of the best examples we have seen of books which are so attractive that a child eagerly increases his reading vocabulary to be able to follow the stories by himself. Further, the stories are meaningful and stimulating, giving science concepts so simply that the first grades can grasp them. Adults, too, can enjoy the presentations; and doubtless many a parent will remark, "We didn't have such books when I went to school." Animal tracks, turkeys, goldfish, and the seasons are just a few of the topics touched upon. While this book is primarily for use in schools, it may be ordered by individuals at bookstores.



PILOT PETE

By Alan Villiers, Charles Scribner's Sons, New York, 1954. 9 x 6 in., 64 pp. Illustrated by H. T. Cauldwell. \$2.50.

"Pete" is a porpoise. From the first page where we meet him with "Slack-pants," his sea-elephant friend, it is evident that his story will be a humorous one. It is also highly adventurous, and serves to acquaint youngsters with the animal life of the South Pacific. The plot revolves around the intrusion of whale hunters into the waters of Perseverance Harbour and the way in which Pete manages to befriend the whales and also the whalers. Children who have enjoyed Mr. Villiers' earlier stories ("Stormalong" is outstandingly popular with 11-year-olds of our acquaintance) will welcome this new one. It is unfortunate that the type could not have been larger, but delightful illustrations enliven every page.

PEBBLES AND SHELLS

By Illa Podendorf, Childrens Press, Chicago, Illinois, 1954. 8½ x 7½ in., 47 pp. Pictures by Mary Gehr. \$2.00.

With seashore time just around the corner, here is a book which parents should find of value to themselves as well as to their children. Picking up sea-

shells is lots of fun—especially if someone can name the various creatures that made them. But often no one in the family can supply this bit of information! "Pebbles and Shells" (one of the excellent "True Books" series) makes it possible for a seven-year-old to do his own research, comparing his discoveries with the drawings, and reading the simple accompanying text. In the Pebbles division of the book, the same seven-year-old has an introduction to geology as he finds the various kinds of rocks from which pebbles are made. But independent as he can be with such a guidebook, he will doubtless be delighted to have a Mother or Dad peering over his shoulder enjoying it with him.

DAVID'S RANCH

By Don Wilcox, Julian Messner, Inc., New York, 1954. 8½ x 5¾ in., 62 pp. Illustrated by Louis Zansky. \$1.60.

This is such a corking good action story that it is hard to realize that it is also an instructive one. Nevertheless it is a powerful lesson on the need for soil conservation and flood control. David's father presents him with a corner of their new ranch, and the boy decides to make money by allowing a few cows to graze on his property. His enterprise flourishes until a rash deal with an itinerant salesman adds four horses to the animals already feeding. Overgrazing and a summer drought bring near-disaster, but David's drastic steps to save his land are successful. Any boy or girl whose heart belongs to the West should thrill to this tale of ranch problems—scaled to child size.

GULF COAST ADVENTURE, and Gulf of Mexico Handbook

By Sam and Bess Woolford and Emilie and Fritz A. Toepperwein, The Highland Press, Boerne, Texas, 1953. 8½ x 5½ in., 64 pp. Illustrated. \$2.00.

An uncle who gives vent to his feelings with such exclamations as "great squeezing octopuses!" would be intriguing to almost any child. Besides this characteristic, Uncle Toby lives on the coast of the Gulf of Mexico, engaged in fishing and selling bait. Though Peter and Mary have the unique opportunity of living with him for a time, their adventures along the sandy beaches could be experienced by any visitor to this fascinating region. Deep-sea fishing, camping overnight on the beach, and exploring for the wreck of an old Spanish galleon are just a few of their activities. At the conclusion of the story is a fairly detailed handbook in which are described the fish, birds, and other creatures with which the children become acquainted.



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The Nature Columnist — A Good Influence

Nature columnists are one of those good influences that, like Audubon Societies, may exert an immeasurable power for right thinking. There are many nature columns now written for newspapers in North America, and new ones are popping up in a surprising number of cities and towns. We have been reading one of them for a year or more — a column called "Nature Notes," in the Rome, Georgia, *News Tribune*, written by Gordon L. Hight, Jr., of the Floyd County (Georgia) Audubon Society. Mr. Hight's column for March 14 had such an interesting item that we are quoting from it in part, as follows:

"SUE SPEAKS FOR MANY"

"Last week I received a letter from a little girl who is distressed, and rightly so, over the wanton actions of another person. I want to make public this letter for it tells of a condition that too often exists in Rome and other areas. The letter goes as follows:

"March 2, 1954

Dear Mr. Hight:

Just thought I would write a letter to you, as my Mommy said you would know what to do. Mr. Hight, some people . . . are killing my birds I feed every day. My Mommy bought me chick feed and we have lots of different kinds of birds. I feed every day after school. I found a blue jay wing in my yard and a cardinal dead. What can I do to stop them?

Your friend,

SUE. . . .

P.S. I forgot to tell you I am 9 years old."

"It is hard to conceive of a . . . person . . . so inconsiderate of a little girl's feelings as to shoot the birds she loves . . . and has been providing with food throughout the . . . winter. . . . I can understand the pleasure she derives from watching her feathered guests at her feeding station and her heart-break upon finding one wantonly killed. It would be bad enough if the act were committed by a youngster, who may not realize the wrong he is doing — but from Sue's letter, I gather that it is an adult who is to blame. The shooter must be very proud of himself.

"Sue should know that most birds are protected by the U. S. Federal Government and that anyone shooting them

illegally is subject to punishment under this law. If Sue lives within the city limits of Rome, there is a law that prohibits the use of firearms within this city. Sue can do one of two things: — first, notify the U. S. Department of the Interior, Fish and Wildlife Service, Atlanta, and inform them of the condition and ask their aid; second, if she lives within the city limits, ask the Rome Police Department to enforce the law concerning the use of firearms. Perhaps before adopting either of the above lines, Sue might talk to the person doing the shooting, telling him of her love for the birds and asking that he aid her in attracting these beautiful creatures rather than to destroy them. I'm sure that if the shooter will give himself a chance, he will come to love our birds also."

What Shall We Do About Offenders?

Getting the bird-shooter won over by letting him look through your binoculars at a *living* bird, and by lending him some of your bird books, is probably the best answer to this problem. Yet, many people want to know which birds are protected by federal and state laws, and what are the penalties for violating them. I have asked John Terres, Managing Editor of *Audubon Magazine*, to provide our readers with information about this. He has done so, as follows:

Birds Protected by Federal* and State Laws

"Certain insect-eating birds, also called migratory songbirds, are protected at all times. These are the ones that

*The federal law, protecting migratory birds, is based upon the Migratory Bird Treaty Act, mutually agreed upon by the United States and Canada. The Government of the Dominion of Canada, in an Act of the Canadian Parliament, approved it on August 29, 1917 and the Congress of the United States, approved it on July 3, 1918. Later, the Migratory Bird Treaty Act was amended by an Act of Congress, approved June 20, 1936, to include a convention between the United States and Mexico for the protection of migratory birds and game mammals in these two countries. Game mammals, under the terms of the convention between the United States and Mexico, are antelope, mountain sheep, deer, bears, peccaries, squirrels, rabbits, and hares.

are usually considered of great value for their beauty, and their usefulness to farms, forests, and gardens. They include blackbirds, bobolinks, cardinals, catbirds, chickadees, cuckoos, flickers, flycatchers, grackles, grosbeaks, hummingbirds, kinglets, martins, meadowlarks, nighthawks or bull-bats, nut-hatches, orioles, robins, shrikes, swallows, swifts, tanagers, titmice, thrushes, vireos, warblers, waxwings, whip-poor-wills, woodpeckers, wrens, and others, also the bald eagle, our national emblem. For a complete list of all birds protected by federal law, consult the nearest federal law enforcement agent.

The Federal Penalty

"The federal penalty, for possessing a protected songbird, a gamebird out of season, or their nests or eggs, without a special permit, is a fine up to \$500, six months in jail, or both. Violators picked up by federal bird protection agents are usually turned over to the State authorities for prosecution.

State Penalties

"The State fines, for killing or possessing a protected bird, its nest or its eggs, will probably vary from state to state.

"In New York State there are two ways in which a violator of the bird protection law may be indicted:

- (a) in a criminal action.
- (b) in a civil action.

"The penalty, if the violator is convicted in a criminal action, is up to the judge, who can fine him, from the minimum of \$10.00, up to a \$100.00 maximum, regardless of the number of birds in possession.

"The penalty, if the violator is convicted in a civil action, is \$60.00 for the misdemeanor, plus \$25.00 for each protected fish, bird, or quadruped in his possession, excepting deer and bears on which there is a higher fine.

What You Can Do

"Each State must protect those birds protected by the Federal Law. But if a State wishes to protect more species of birds than those protected by the Federal Law, it may do so. Most states protect all but a few species of birds occurring within their borders. In order to discover whether the state in which you live is legally protecting all those birds listed under the Federal Law, you should do three things:

- (a) Write to the U. S. Fish and Wildlife Service, Washington 25, D.C., for their Wildlife Leaflet 327, 'Birds Protected by Federal Law,' which gives the list of the 522 migratory birds protected.
- (b) Write to your state fish and game, or conservation, department, and ask for a copy of its laws and

regulations protecting birds and other animals in your state.
(c) Compare the two lists.
"Migratory Game Birds" (see list in

Wildlife Leaflet 327) are also protected, except during open seasons declared each year by the Federal Government."
—John K. Terres.

BIRDING ON GRAND MANAN

Continued from Page 133

song about "coming in on a wing and a prayer," is in sharp contrast with the readily accessible ocean side. Much of it is forested with mixed hardwoods, spruce, and fir, many of the trees very old and sometimes tangled in almost impenetrable blow-downs. We saw no evidences that fire had ever touched them, even in the brushy areas whose openness appeared to be the result of lumbering operations years ago.

It was here that we found our first red-breasted nuthatches of the trip, a species which later proved to be common wherever the conifers were of good height. Many little bands of white-winged crossbills, too, roamed among the spruce tops as if checking the prospects for a fall seed crop. White-throated sparrows, some of them still in full song, shared the blow-downs and edges with slate-colored juncos and an occasional olive-sided or yellow-bellied flycatcher.

We never did catch up with a winter wren or a brown-capped chickadee, both of which are said to nest on the island. But hermit thrushes were frequent and, surprisingly, the deepest and darkest stands of old spruce seemed to be the favorite haunts of dozens of flickers. Among the warblers, we saw the magnolia, bay-breasted, parula, black-throated blue, and northern yellow-throat. There were also golden-crowned kinglets, and during the return trip, a woodcock flushed from a roadside damp spot just as three deer paused to stare at us curiously before melting away into the forest shadows.

We had only two full days available for Grand Manan, and the second of them dawned so sparklingly clear that we decided to spend it in the Southern Head area where gaunt cliffs rise 200 feet above deep water and one can look down upon sleek black guillemots riding the swells safely outside the crashing turmoil where rock and ocean meet. Farther out, our binoculars picked up frequent mother-and-children groups of common eiders, and now and then a remote, aloof old male utterly in-

different to the family which had been so important to him in the early days of the breeding season.

From the lighthouse here at the island's southern tip the cliffs are nearly continuous all the way up the west coast. A faint, scraggy trail skirts their rim for the first half-mile or so, and beyond that point only the toughest hikers are likely to venture. However, there are enough other fairly definite trails leading off from points along the east coast road to keep experienced birders busy for a long time in the inland "wilderness," if they don't mind rough going.

According to Pettingill's "Guide to Bird Finding East of the Mississippi," more than 275 species have been recorded from the little group of islands of which Grand Manan is much the largest. Unfortunately, our limited time forbade arranging our boat trips to other parts of the archipelago, and especially to the Bowdoin College Scientific Station on Kent Island where, among other special attractions, there are many breeding Leach's petrels and probably the largest colony of herring gulls on the Atlantic Coast.

Although bird finding is a prime reason for going to Grand Manan, it is far from being the only one. There are the unique herring fisheries and processing plants, the forthright yet friendly native people, the fresh, salty air, the prevalent coolness even in midsummer, the infinite remoteness from the world's hurly-burly. We saw no country clubs, no golf courses, tennis courts or occasions for dress-up clothes. You can walk to your heart's content, or loaf all day. There is salt-water bathing in the coves, too, for those who are closely enough related to polar bears to enjoy swimming in liquid ice. And always there are the cruising gulls, the infinite distances of the sea with its shifting lights and colors that are never twice the same, and the silver pathway to the moon that closes the long northern twilights.

What of the practical side of a visit to Grand Manan? Well, one reaches the island by a sizable mo-

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tor ship that sails from St. Andrews, New Brunswick on Mondays, Thursdays, and Saturdays, and from St. John on Wednesdays and Fridays. The one-way fare from St. Andrews, which we used after crossing the border at Calais, Maine is \$2.10; from St. John it is \$2.60. Car space on the ship is so limited that reservations (\$5 each way) should be made five or six months in advance. However, this may not worry you,

since a first-class car with enough gasoline for 40 miles can be rented on Grand Manan for \$5 a day.

Simple but clean and comfortable accommodations are available in several places. We stayed at The Anchorage, between Grand Harbor and Seal Cove, where our party of three had two comfortable adjacent cabins plus all meals for \$7 each per day. These lodgings, with their central dining room, showers, and out-

lying cabins, are something of a headquarters for birders who make some of their best finds in nearby parts of the island.

Finally, be sure to take along heavy as well as medium-weight field clothes that can stand tough usage—a slicker for boat trips, a pocket compass, two pairs of good hiking shoes, and plenty of woolen socks or stockings, for the woods trails are often rocky and very wet.

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